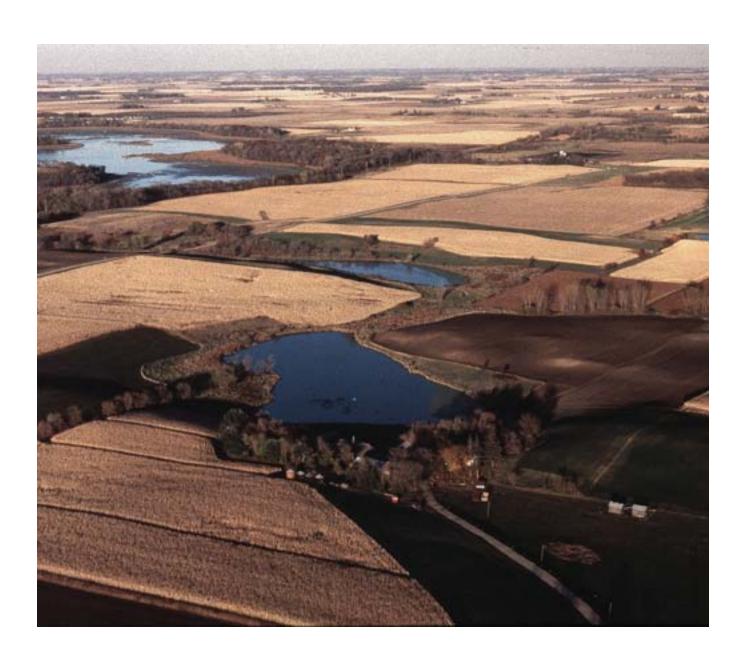




In cooperation with Minnesota Agricultural Experiment Station and Board of Water and Soil Resources

# Soil Survey of Waseca County, Minnesota



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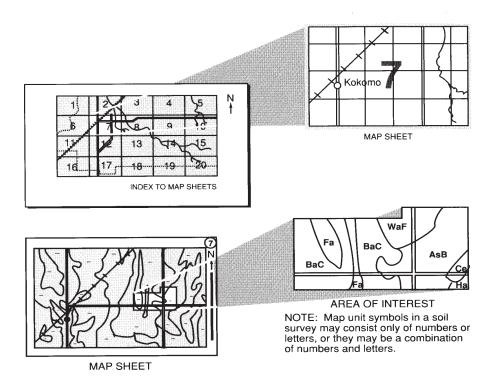
## **How To Use This Soil Survey**

This publication consists of a manuscript and a set of soil maps. The information provided can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet, and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described. The map unit symbols and names also appear as bookmarks, which link directly to the appropriate page in the publication.

The **Contents** shows which table has data on a specific land use for each soil map unit. Also see the **Contents** for other sections of this publication that may address your specific needs.



This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 2000. Soil names and descriptions were approved in 2001. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2000. This survey was made cooperatively by the Natural Resources Conservation Service, the Minnesota Agricultural Experiment Station, and the Board of Soil and Water Resources. The survey is part of the technical assistance furnished to the Waseca County Soil and Water Conservation District. The survey was partially funded by Waseca County. Other assistance was provided by the Agricultural Extension Service, the Minnesota Geological Survey, and the Minnesota Department of Natural Resources.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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Cover: Cropland and marshes in a nearly level to steep area of Reedslake, Lester, and Le Sueur soils in Waseca County.

Additional information about the Nation's natural resources is available on the Natural Resources Conservation Service homepage on the World Wide Web. The address is http://www.nrcs.usda.gov.

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## Where To Get Updated Information

The soil properties and interpretations included in this survey were current as of March 2003. The most current information is available through the NRCS Soil Data Mart Website at http://soildatamart.nrcs.usda.gov/

Additional information is available from the Natural Resources Conservation Service (NRCS) Field Office Technical Guide at Waseca, Minnesota, or online at www.nrcs.usda.gov/technical/efotg. The data in the Field Office Technical Guide are updated periodically.

Additional information about soils and about NRCS is available through the Minnesota NRCS Web page at www.mn.nrcs.usda.gov.

For further information, please contact:

USDA, Natural Resources Conservation Service Waseca Field Office 212 15th Avenue NE, Suite 5 Waseca, MN 56093 Phone: 507-835-4831

#### **Foreword**

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

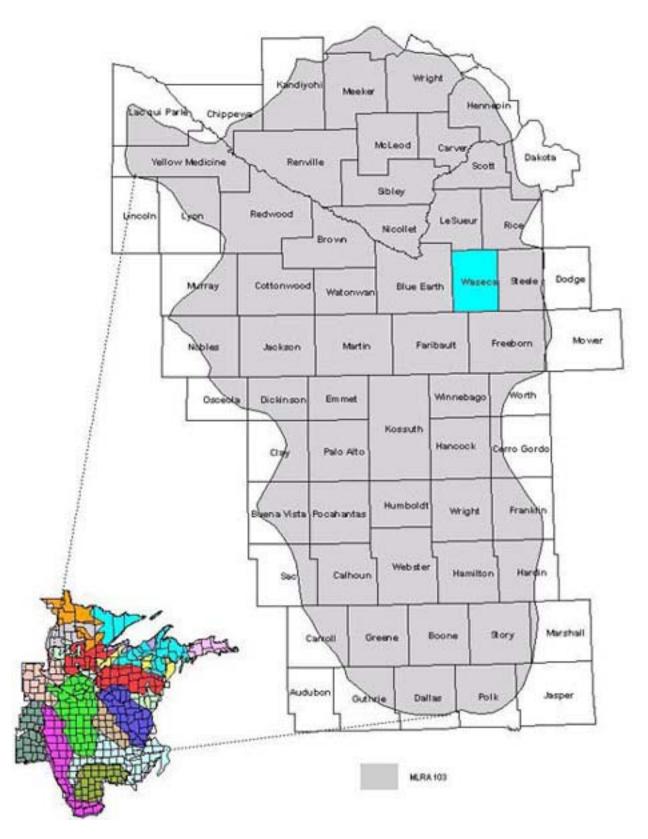
This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

William Hunt State Conservationist Natural Resources Conservation Service



Location of Waseca County and MLRA 103 in Region 10

## Soil Survey of Waseca County, Minnesota

By Douglas E. Miller, Natural Resources Conservation Service

Fieldwork by John F. Beck, April L. Gansen, Peter R. Hartman, Thomas C. Jackson, Kenneth D. Matzdorf, and Douglas E. Miller, Natural Resources Conservation Service

Correlation by Allan G. Giencke, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the Waseca Soil and Water Conservation District and the Minnesota Agricultural Experiment Station

#### **How This Survey Was Made**

This survey was made to provide updated information about the soils and miscellaneous areas in the survey area, which is in Region 10 and in Major Land Resource Area 103. Region 10 is an administrative division of the Natural Resources Conservation Service. Major land resource areas (MLRAs) are geographically associated land resource units that share a common land use, elevation and topography, climate, water, soils, and vegetation (USDA, 1981). Waseca County is a subset of Major Land Resource Area 103 (Central Iowa and Minnesota Till Prairies). Map unit design and the detailed soil descriptions are based on the occurrence of each soil throughout the MLRA. In some cases a soil component may be referred to that does not occur in the Waseca County subset but that is representative of the MLRA.

The information includes a description of the soils and miscellaneous areas and their location and a discussion of their properties and the subsequent effects on suitability, limitations, and management for specified uses. Soil scientists used information from the previously published survey of Waseca County (Cummins, 1961). In the field, the soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is

the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landscape or segment of the landscape. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landscape, soil scientists develop a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientists to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Individual soils on the landscape commonly merge into one another as their characteristics gradually change. To construct an accurate map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, soil reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Interpretations are modified as necessary to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a zone in which the soil moisture status is wet within certain depths in most years, but they cannot predict that this zone will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map

unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

The descriptions, names, and delineations of the soils in this survey area may not fully agree with those in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

#### **General Nature of the Survey Area**

Waseca County is in the northwestern part of the Central Iowa and Minnesota Till Prairies (MLRA 103). The county has a total area of 277,000 acres, of which 5,067 acres consists of natural bodies of water. Waseca, the county seat, is the largest community. In 1990, Waseca had a population of 8,385 and Waseca County had a population of 18,500.

#### History

Waseca County was inhabited by the Winnebago band of Lakota Indians, generally known as Sioux, when the first settlers arrived. The Lakota word "Waseca" means "rich ground." The county was opened to legal settlement in 1851. In that year the Sioux relinquished title to a large area of land west of the Mississippi River.

From 1855 to 1857, the area was part of Steele County; on February 27, 1857, Waseca County was organized. Most of the early settlers who came to the county were from the eastern part of the United States and Canada. They were mainly of Irish, German, and Scandinavian descent. The town of Wilton was the original county seat, but in 1870 the county seat was moved to its present location in Waseca. Of the 13 original townsites established, 7 remain. They are Waseca, Janesville, New Richland, Waldorf, Matawan, Alma City, and Otisco (Childs, 1905).

The border between two major ecological communities runs through Waseca County. The prairie grasslands and hardwood forests were native to various parts of the county; transitional areas of oak woods openings occurred between these two land types. Generally, the prairie grasslands dominated the southwestern and central parts the county. The prairie and forests included numerous lakes, streams, rivers, and marshes. The soils formed in glacial deposits that were high in natural fertility. Because of the natural fertility of the soils, farming developed and prospered in the area. In 1859, the first wheat crop was harvested. By 1886, 1,523 farms were raising wheat, oats, corn, barley, rye, potatoes, beans, hay, flax seed,

grapes, timothy seed, clover seed, and apples (Rutledge, 1988). Currently, most of the land area in the county is farmland. In 2000, approximately 84 percent of the farmland was used for crops. Corn and soybeans are the principal grain crops, and hogs, dairy cattle, and poultry are the principal livestock enterprises in the county.

#### **Industry and Transportation Facilities**

Agriculture and supporting businesses are the main industry in Waseca County. Other industries include printing, electronics, and small businesses.

Waseca is approximately 65 miles from Minneapolis and St. Paul and about 50 miles from Rochester. The county has a well developed network of roadways. U.S. Highway 14 and Minnesota Highway 30 both cross the county from east to west. Minnesota Highway 13 and Waseca County Road 3 are the main north-south routes. Other county and township roads make all areas of the county accessible. A railroad line runs east and west, intersecting the towns of Waseca and Janesville. A branch line goes south from Waseca through New Richland.

#### Quaternary History and Glacial Landforms of Waseca County

By Barbara A. Lusardi, geologist, Minnesota Geological Survey

During the Pleistocene Epoch, 2 million to 10,000 years ago, glaciers advanced and retreated across Minnesota. In Waseca County, all of the glacial deposits near the land surface were deposited during the last major glacial episode in Minnesota—the late Wisconsin glaciation—about 14,000 years ago. At that time, the Des Moines lobe extended through the Minnesota lowland to its maximum extent: south to Des Moines, Iowa, and east to the border of Steele and Dodge Counties in Minnesota. The Bemis moraine marks its terminal margin. By about 12,000 years ago, ice was no longer active in this region, although stagnant, melting ice still covered much of the county. After the remaining glacial ice in the region completely melted, modern soils developed and alluvium accumulated in modern streams.

The preglacial bedrock surface across the county consists of Ordovician sedimentary rocks (500-450 million years old). This surface is buried by 70 to 350 feet (21 to 106 meters) of glacial sediment (Bloomgren, 1993).

Soils in Waseca County formed mainly in glacial till, which is an unsorted mix of rock debris deposited directly by ice. The till is light olive brown to yellowish

brown, calcareous, pebbly loam. With each advance, the glaciers deposited sediments, the lithology of which indicates the direction of the glacial advance. Till in Waseca County contains (as represented in the very coarse sand fraction) an average of 39 percent crystalline rocks (granitic, mafic igneous, and metamorphic), 24 percent carbonate rocks, and 37 percent shale (Lusardi, 1997). The presence of gray shale indicates that the ice carried debris derived from rocks in the northwest, particularly the Pierre Shale in North Dakota. Because all of the till at the surface is similar in color, texture, and lithology, it is the glacial landforms that provide the depositional history of the ice in this region.

Circular (in places coalescing), flat-topped hills and irregular, rounded hummocks form the dominant landscape across the county. Hilltops range from about 10 to 30 feet (3 to 9 meters) above the base, and abundant depressions and channels, occupied by swamps, separate the hills. The hills formed when unsorted supraglacial debris slumped into holes in the stagnant ice. When the ice melted, the debris remained as hills. This process is known as topographic inversion because what had been a hole in the ice is now a hill on the ground. Where composed of fine grained lacustrine sediment, the circular, flattopped landforms may be called ice-walled lake plains. In Waseca County, however, little lacustrine sediment was discovered (Lusardi, 1997). Instead of becoming lakes in the ice, these holes served as glacial "storm drains," collecting anything that washed into them. The thicker the stagnant ice, the deeper the possible hole; the more debris on the ice, the higher the hill. There is within the county a gradation from south to north (and a less distinct gradation from west to east) from circular, flat-topped hills that have low relief (about 10 feet, or 3 meters) to moderate relief (about 20 feet, or 6 meters) to high relief (about 30 feet, or 9 meters). Apparently, the ice, the debris on top of the ice, or both were thinnest in the central part of the county and thicker to the north and east.

To the north and east (north of Everson Lake and the eastern parts of Otisco and New Richland Townships), the circular, flat-topped hills grade into irregular, rounded hummocks. The formation of rounded hummocks instead of circular, flat-topped hills is related to the stability of the stagnant-ice environment. In the central part of the county, the ice wasted in place. Closer to the ice margin, however, water flowing from and along the margin undermined the ice and caused collapse and redistribution of the sediment.

Through the central and southern parts of the county, till forms a relatively level to gently undulating

plain. Circular landforms on the plain, although obvious on aerial photographs, do not have enough relief (less than 10 feet, or less than 3 meters) to appear on a topographic base. These sediments are interpreted as till deposited by ice that had little or no supraglacial till on top (Lusardi, 1997).

In the western part of the county, the till plain is covered by a veneer of silt and clay that was deposited in Glacial Lake Minnesota, which covered parts of Watonwan, Blue Earth, Faribault, and Waseca Counties. In Waseca County, evidence of the lake is obscure. The lake sediment is thin, almost entirely within the zone of soil development, and, therefore, it is difficult to identify. In addition, the distribution of the lake sediment is patchy; exposures in shallow drainage basins and adjacent to stream valleys are predominantly till.

There apparently were two outlets of the lake through Waseca County—one to the north and one to the east. The northern outlet was a network of channels that drained through what is now Lake Elysian into the extensive channel system to the north. Eventually, this drainage flowed eastward into the precursor of the Cannon River in Rice County (Patterson and Hobbs, 1995). The existence of an eastern outlet in the county is more speculative. Water from the lake may have drained through what is now the Le Sueur River valley (Lusardi, 1997).

The Le Sueur River, which now flows west into the Minnesota River, once flowed east in channels developed above and below the glacier and along the ice margin. Several sharp bends in the river represent drainage paths occupied at different times during the late Wisconsin. The Le Sueur River valley west of the confluence with the Little Le Sueur River (sec. 7, T. 106 N., R. 22 W.) is probably a remnant of a previous subglacial drainage active when the ice margin was in the eastern part of the county. Sand and gravel outwash deposits from this earlier drainage fan eastward from an abrupt beginning to the west against the northeast-southwest-trending ice margin (north from sec. 3, T. 105 N., R. 23 W., following the Le Sueur River valley, and continuing north to sec. 1, T. 107 N., R. 21 W.). An indistinct pattern of low-relief linear ridges on the surface of the fan suggests that it may have been deposited on stagnant ice. The ridges represent sediment-filled channels cut into the ice that, because of topographic inversion, appear as ridges on the land surface (Patterson, 1994). Much of this outwash fan was buried under as much as 50 feet (15

meters) of till deposited when the ice continued to advance eastward.

A narrow band of sand and gravel within the buried fan is exposed in a network of channels, one of which is now occupied by the Little Le Sueur River (secs. 1 to 5 and 8 to 12, T. 106 N., R. 22 W.). The sand and gravel can be traced eastward to where the Little Le Sueur River joins the Straight River in Steele County, Minnesota. The meltwater that carved these channels is probably related to the draining of Glacial Lake Minnesota. Water from the lake presumably flowed through channels in the stagnant ice and was funneled into previously excavated lows and channels. Eskers—elongate ridges of stratified sand and gravel—are in some of the channels. These ridges are deposits from streams that flowed in ice-walled channels or tunnels on or under the glacier.

Farther west, the river bends to the southwest. This segment occupies a broad, indistinct trough that extends southwest through Silver Lake and northeast through Clear Lake. There is little topographic expression of this feature, because supraglacial sediment collapsed and filled the channel. Its presence is inferred from the alignment of low areas, lakes, and the river valley (Lusardi, 1997). This trough, as well as other indistinct troughs along the Le Sueur River valley, may correspond to short-lived positions of the ice margin.

#### Climate

Waseca County is in the interior of the great landmass of North America. This landmass, heated in summer by a sun that is at a high altitude and that shines for long hours, makes the summers warm and pleasant. In contrast, winters are cold, and the land cools rapidly as a result of less effective solar heating. Reduced solar heating in winter is caused by a low sun angle, increased reflection of solar radiation by snow, and shortened day length. Northerly winds from Canada bring in additional frigid air.

Precipitation in Waseca County frequently occurs as snowstorms during the winter and as showers (which are often heavy) during the warmer months when warm moist air moves up from the south. The total annual rainfall is normally adequate for corn and soybeans.

Specific data on temperature and precipitation for the survey area are available on the Web at www.wcc.nrcs.usda.gov/climate/climate-map.html.

### Formation and Classification of the Soils

This section relates the soils in the survey area to the major factors of soil formation and describes the system of soil classification.

#### Formation of the Soils

The natural environment consisting of the thin mantle of material we refer to as soil is dynamic and ever changing. Soils are affected by soil-forming processes involving the interaction of five major factors. These factors are parent material, climate, living organisms, topography, and time (Jenny, 1941). The interaction of these factors generates complex chemical, physical, and biological processes. As a result of these soil-forming processes acting over time, definitive layers, or horizons, develop in the soil.

#### Climate

Climate is probably the most influential soil-forming factor (Brady, 1974). Moisture and temperature influence the rate of chemical and physical reactions and the growth of microbes in the soil. Native vegetation (for example, hardwood forest or prairie grass) also is influenced by climate. Rainwater eventually enters the soil, dissolving soluble soil materials and transporting them to other parts of the soil profile. This process is known as leaching.

Waseca County has a cool, subhumid, continental climate characterized by wide variations in temperature from summer to winter. During the winter, the soil-forming processes are essentially dormant. The soil is frozen to a depth of 2 to 3 feet. The depth to which frost penetrates the soil is dependent on the amount of snowfall in late fall and early winter.

The climate is fairly uniform across the survey area. Local variations are caused by relief, aspect, and parent material. For example, south- and west-facing slopes tend to be warmer and drier than north- and east-facing slopes. Coarse textured soils tend to be warmer and droughtier than loamy or clayey soils.

#### **Living Organisms**

Plants and animals provide the organic material for the formation of humus. Roots, leaves, and stems provide most of this material. Climate, parent material, and topography affect plant species. Micro-organisms, which are affected by the same factors, perform many vital functions in the soil. Micro-organisms transform organic material into humus, convert forms of nitrogen, and protect plant roots from disease-causing organisms. Micro-organisms generally include bacteria, fungi, and protozoa. Micro-organisms occur in the A horizon, or topsoil, which is the part of the soil profile that has the largest content of organic matter (USDA, 1999). Plants impact soil chemistry. Native prairie grasses have extensive root systems that result in a relatively large amount of accumulated humus, which is less acid than the material formed under hardwood forests. Soils that formed under hardwood forests accumulate less humus that is more acid.

Waseca County is situated where the big woods (hardwood forests) gave way to the native prairie grasslands. Transitional areas of scattered oak stands within areas of grassland were also part of the native vegetation. The original prairies no longer exist in the county. A number of remnant woodlots from the original "big woods" still exist.

Human activity has also influenced the development of soils. Humans have removed natural vegetation; accelerated soil erosion by leaving the soil surface bare; changed the drainage of some soils; and changed the natural topography by removing soil material in some places and filling in other areas.

#### **Topography**

Topography, or relief, refers to position on the landscape. Differences in landscape setting affect soil formation by impacting the amount of rainfall that runs off or onto a particular site. Storden, Lester, Reedslake, Le Sueur, Cordova, and Glencoe soils formed in the same parent material—New Ulm Till—

but have different characteristics as a result of the soilforming processes relative to their position on the landscape. Storden soils occur on the most convex parts of the hillslope (the shoulder). Because they have a high rate of runoff, a relatively small amount of rainfall or snowmelt enters the soil. They exhibit only minimal development of distinct horizons because calcium carbonate has not been allowed to leach downward through the profile. Storden soils, therefore, have calcium carbonate at the surface and have a relatively low content of organic matter. Lester and Reedslake soils are on the less convex parts of the hillslope (the backslope). Less runoff occurs in these areas, and more water infiltrates the soil. As a result, calcium carbonate is leached downward in the soil profile. This "weathering" of the soil profile results in the development of soil horizons. Lester soils are on slopes of 6 percent or more, and Reedslake soils have slopes ranging from 2 to 5 percent. Le Sueur soils, on nearly level, slightly convex summits of hills or slight rises in broad flat areas, have an even lower runoff rate and higher rate of water infiltration than the Reedslake soils. Cordova soils are in nearly level or slightly concave positions. In most years Cordova soils become saturated with water for parts of the growing season. Glencoe soils are in closed depressions. There is essentially no runoff, and a great amount of water runs into the depressions. Glencoe soils are naturally saturated with water for nearly all of the growing season and have standing water on the surface for part of the season.

Extreme differences in the amount of water in the soil affect the kind and intensity of biological and chemical processes in the soil. Different species of plants and micro-organisms live in areas where the soil is saturated with water (such as areas of Glencoe soils) than in areas where water runs off or percolates through the soil (such as areas of Storden or Lester soils). Many tree species do not grow well on soils where water is at or near the surface for much of the growing season. On the other hand, reeds and sedges require sites that are saturated with water at or near the surface during the same period.

#### **Parent Material**

Parent material is the physical material in which the soil forms. Parent material determines important physical properties of the soil, such as the ability to store water for plants and the ability to transmit water. Parent material also largely determines the ability to supply important nutrients to plants, such as calcium, phosphorus, and potassium. The inherent physical and chemical properties are related, to a large extent, to

the percentage of sand, silt, and clay in the parent material. Soils that formed in parent materials with a high content of silt have a high capacity to store water for plants. Soils that formed in parent materials with a high content of silt and clay have a high capacity to store nutrients for plants. Soils that formed in parent materials with a high content of sand have a low capacity to store water and nutrients.

The soils of Waseca County formed primarily in parent materials transported and modified by ice and water. Glacial till is the most common parent material in the county. Glacial till is an unsorted mixture of sand, silt, clay, gravel, cobbles, and boulders. Glaciers with origins in Canada transported loamy, calcareous till into Waseca County. Soils that formed in loamy, calcareous glacial till include Glencoe, Canisteo, Webster, Nicollet, Clarion, Omsrud, Storden, Cordova, Le Sueur, Angus, Reedslake, and Lester soils. In some areas of the county, parent material was deposited in a stagnant ice environment as moderately fine textured and fine textured glacial till. Soils that formed in this kind of parent material include Mazaska, Rolfe, Derrynane, Lerdal, and Kilkenny soils.

Soils that formed in coarse textured parent materials occur as sand and gravel as a result of glacial outwash deposits from glacial meltwater. Examples are Estherville, Hawick, and Dickinson soils.

The nearly level margins of Glacial Lake Minnesota are in the southwestern part of the county. Lacustrine sediments were laid down in this area. The soils that formed in fine textured lacustrine sediments include Lura, Brownton, Marna, Barbert, and Guckeen soils.

Some soils in Waseca County formed in organic deposits resulting from the accumulation of decayed plant material over a period of many years. Houghton, Muskego, and Klossner soils are examples.

#### Time

Time is required for all soil formation. Soils in some parts of the world have been exposed to the soilforming factors for much longer than the soils in Waseca County. Such soils have been leached of most of their nutrients. Also, the clay particles may have been altered to types of clay or other compounds that have little capacity to store nutrients for plants. These soils are considered to be strongly weathered or "old." The soils in Waseca County have been subject to the soil-forming processes for only 12,000 to 14,000 years. These soils are considered to be "young" because they still retain large amounts of nutrients for plants to utilize. They also have the capacity to store large amounts of nutrients for plants.

#### Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1998 and 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 1 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Mollisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aquoll (*Aqu*, meaning water, plus *oll*, from Mollisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Endoaquolls (*Endo*, meaning within, plus *aquoll*, the suborder of the Mollisols that has an aquic moisture regime).

SUBGROUP. Each great group has a typic

subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but does not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective Typic identifies the subgroup that typifies the great group. An example is Typic Endoaquolls.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, mineralogy class, cation-exchange activity class, temperature regime, thickness of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, superactive, mesic Typic Endoaquolls.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series. An example is the Webster series.

The Official Soil Series Descriptions (OSDs) give information about the series mapped in Waseca County. These descriptions are available at http://soils.usda.gov.

Table 1.--Classification of the Soils

Soil name	Family or higher taxonomic class
Angus	  Fine-loamy, mixed, superactive, mesic Mollic Hapludalfs
-	Fine, smectitic, mesic Vertic Argialbolls
	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
	Sandy over loamy, mixed, superactive, mesic Typic Endoaquolls
	Fine-loamy, mixed, superactive, mesic Typic Calciudolls
Biscay	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Endoaquoll
Blue Earth	Fine-silty, mixed, superactive, calcareous, mesic Mollic Fluvaquents
Brownton	Fine, smectitic, calcareous, mesic Vertic Epiaquolls
Canisteo	Fine-loamy, mixed, superactive, calcareous, mesic Typic Endoaquolls
Clarion	Fine-loamy, mixed, superactive, mesic Typic Hapludolls
Cokato	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
	Fine-loamy, mixed, superactive, mesic Cumulic Endoaquolls
	Fine-loamy, mixed, superactive, mesic Typic Argiaquolls
	Fine-loamy, mixed, superactive, mesic Aquic Hapludolls
	Coarse-loamy, mixed, superactive, mesic Typic Endoaquolls
	Coarse-loamy, mixed, superactive, mesic Typic Endoaquolls
	Fine-loamy, mixed, superactive, mesic Cumulic Endoaquolls
	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
	Coarse-loamy, mixed, superactive, mesic Typic Hapludolls
	Sandy, mixed, mesic Typic Hapludolls  Coarse-loamy, mixed, superactive, calcareous, mesic Typic Endoaquolls
	Fine-silty, mixed, superactive, calcareous, mesic typic Endoaquolis
	Fine-sity, mixed, superactive, mesic monito Hapitudans  Fine-loamy, mixed, superactive, mesic Cumulic Endoaquolls
	Fine, smectitic, mesic Aquertic Argiudolls
	Sandy, mixed, mesic Typic Endoaquolls
	Fine, smectitic, mesic Aquertic Hapludolls
	Fine-loamy, mixed, superactive, mesic Typic Argiaquolls
	Coarse-loamy, mixed, superactive, mesic Cumulic Hapludolls
	Fine-loamy, mixed, superactive, mesic Typic Calciaquolls
	Fine-loamy, mixed, superactive, calcareous, mesic Cumulic Endoaquolls
	Sandy, mixed, mesic Entic Hapludolls
	Euic, mesic Typic Haplosaprists
	Fine, smectitic, mesic Oxyaquic Vertic Hapludalfs
Kingston	Fine-silty, mixed, superactive, mesic Aquic Hapludolls
Klossner	Loamy, mixed, euic, mesic Terric Haplosaprists
Le Sueur	Fine-loamy, mixed, superactive, mesic Aquic Argiudolls
Lerdal	Fine, smectitic, mesic Aeric Vertic Epiaqualfs
Lester	Fine-loamy, mixed, superactive, mesic Mollic Hapludalfs
	Coarse-loamy, mixed, superactive, mesic Aquic Hapludolls
	Sandy, mixed, mesic Aquic Hapludolls
	Coarse-loamy, mixed, superactive, mesic Typic Hapludolls
	Fine, smectitic, mesic Cumulic Vertic Epiaquolls
	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
	Fine, smectitic, mesic Vertic Epiaquolls  Fine, smectitic, mesic Vertic Argiaguolls
	,
	Loamy, mixed, euic, mesic Terric Haplosaprists  Sandy, mixed, mesic Aquic Hapludolls
	Fine, smectitic, mesic Vertic Argiaquolls
	Coprogenous, euic, mesic Limnic Haplosaprists
	Fine-loamy, mixed, superactive, mesic Aquic Hapludolls
	Fine-loamy, mixed, superactive, mesic Typic Hapludolls
	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
	Fine-loamy, mixed, superactive, mesic Typic Hapludolls
	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
	Fine-loamy, mixed, superactive, mesic Pachic Hapludolls
	Fine, smectitic, mesic Typic Argialbolls
	Coarse-loamy, mixed, superactive, calcareous, mesic Mollic Fluvaquents
	Fine, smectitic, mesic Aquertic Argiudolls
	Fine-silty, mixed, superactive, calcareous, mesic Typic Endoaquolls
Spicer	Fine-loamy, mixed, superactive, mesic Cumulic Hapludolls
SpicerSpillvilleStorden	Fine-loamy, mixed, superactive, mesic Typic Eutrudepts
Spicer Spillville Storden Suckercreek	Fine-loamy, mixed, superactive, mesic Typic Eutrudepts  Coarse-loamy, mixed, superactive, calcareous, mesic Fluvaquentic Endoaquolls
SpicerSpillvilleSpillvilleStordenSuckercreekSwanlake	Fine-loamy, mixed, superactive, mesic Typic Eutrudepts  Coarse-loamy, mixed, superactive, calcareous, mesic Fluvaquentic Endoaquolls  Fine-loamy, mixed, superactive, mesic Typic Calciudolls
Spicer	Fine-loamy, mixed, superactive, mesic Typic Eutrudepts  Coarse-loamy, mixed, superactive, calcareous, mesic Fluvaquentic Endoaquolls

Table 1.--Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Tomall	- Coarse-loamy, mixed, superactive, mesic Cumulic Hapludolls
Truman	- Fine-silty, mixed, superactive, mesic Typic Hapludolls
Udipsamments	- Udipsamments
Udorthents	- Udorthents
Webster	- Fine-loamy, mixed, superactive, mesic Typic Endoaquolls

## **Soil Map Unit Descriptions**

This section includes the soil map unit descriptions for the soil series mapped in Waseca County.

Characteristics of the soil and the material in which it formed are identified for each soil series. A brief description of the soil profile is provided in the map unit descriptions. For more information about a soil series, the official series description can be viewed or downloaded from the Web. The detailed descriptions follow standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Keys to Soil Taxonomy" (Soil Survey Staff, 1998).

The map units on the soil maps in this survey represent the soils or miscellaneous areas in the survey area. These soils or miscellaneous areas are listed as individual components in the map unit descriptions. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is provided in the tables (see Contents).

A map unit delineation on the soil maps represents an area on the landscape. It is identified by differences in the properties and taxonomic classification of components and by the percentage of each component in the map unit.

Components that are dissimilar, or contrasting, are identified in the map unit description. Dissimilar components are those that have properties and behavioral characteristics divergent enough from those of the major components to affect use or to require different management. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps.

Components that are similar to the major components (noncontrasting) are not identified in the map unit description. Similar components are those that have properties and behavioral characteristics similar enough to those of the major components that they do not affect use or require different management.

The presence of multiple components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into segments that have similar use and management requirements. The delineation of such landscape segments on the map provides sufficient information for the development of resource plans, but if intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol is used for each map unit on the soil maps. This symbol precedes the map unit name in the map unit descriptions. Each description includes general information about the unit. The map unit descriptions include representative values in feet and the months in which wet soil moisture status is highest and lowest in the soil profile and ponding is shallowest and deepest on the soil surface. The descriptions also include the classes of flooding and the months in which flooding is least and most likely to occur. Tables 17, 18, and 19 provide a complete display of this data for every month of the year. The available water capacity given in each map unit description is calculated for all horizons in the soil profile. The organic matter content displayed in each map unit description is calculated for all horizons in the soil profile, except those that represent the surface duff layer on forested soils. Table 15 provides a complete display of available water capacity and organic matter content by horizon.

The principal hazards and limitations to be considered in planning for specific uses are described in other sections of this survey.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying layers, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer or of the underlying layers. They also can differ in slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is

divided into *soil phases*. The name of a soil phase commonly indicates a feature that affects use or management. For example, Lester loam, 6 to 12 percent slopes, eroded, is a phase of the Lester series.

A map unit is named for the component or components that make up a dominant percentage of the map unit. Many map units consist of one dominant component. These map units are consociations. Canisteo clay loam, 0 to 2 percent slopes, is an example.

Some map units are made up of two or more dominant components. These map units are complexes or undifferentiated groups.

A complex consists of two or more components in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. Attempting to delineate the individual components of a complex would result in excessive clutter that could make the map illegible. The pattern and proportion of the components in a complex are somewhat similar in all areas. Canisteo-Glencoe, depressional, complex, 0 to 2 percent slopes, is an example.

An undifferentiated group is made up of two or more components that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the components in a mapped area are not uniform. An area can be made up of only one of the dominant components, or it can be made up of all of them. Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes, is an undifferentiated group in this survey area.

This survey includes miscellaneous areas. Such areas have little or no soil material and support little or no vegetation. The Pits component of the Pits, gravel-Udipsamments complex is an example.

Table 2 gives the acreage and proportionate extent of each map unit. Other tables (see Contents) give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

#### **GP—Pits**, gravel-Udipsamments complex

#### **Component Description**

#### Pits, gravel

Extent: 50 to 100 percent of the unit Geomorphic setting: Stream terraces, outwash plains, and moraines

Parent material: Sandy and gravelly outwash General description: Gravel pits are areas that have been mined for gravel or sand. Specific areas are actively being mined or are abandoned pits.
Because of the variability of this component, interpretations for specific uses are not available.
Onsite investigation is needed.

#### **Udipsamments**

Extent: 15 to 30 percent of the unit Geomorphic setting: Moraines, stream terraces, and outwash plains

Parent material: Outwash

General description: Udipsamments are areas of soil that support plant growth. They consist of areas of the pits that have been reclaimed or abandoned. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

## L5A—Delft, overwash-Delft complex, 1 to 4 percent slopes

#### **Component Description**

#### Delft, overwash, and similar soils

Extent: 40 to 60 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 4 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months): 1.5 feet (April)

Wet soil moisture status is lowest (depth, months): 4.5 feet (August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.3 inches

Content of organic matter in the upper 10 inches: 3.5 percent

Typical profile:

Ap—0 to 12 inches; loam A—12 to 37 inches; loam Bg—37 to 47 inches; clay loam Cq—47 to 80 inches; loam

#### Delft and similar soils

Extent: 30 to 55 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent Texture of the surface layer: Loam Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Poorly drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 37 inches; loam Bg—37 to 50 inches; clay loam Cg—50 to 60 inches; loam

#### Glencoe

Extent: 0 to 10 percent of the unit

Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 11.2 inches

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

Ap—0 to 10 inches; clay loam A,ABg—10 to 35 inches; clay loam Bg—35 to 48 inches; loam Cg—48 to 60 inches; loam

#### Terril

Extent: 0 to 10 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes Slope range: 2 to 6 percent

Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Moderately well drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months): 2.5 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 6.7 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A1—0 to 27 inches; loam A2,BA—27 to 40 inches; loam Bw—40 to 63 inches; loam C—63 to 80 inches; loam

## L13A—Klossner muck, depressional, 0 to 1 percent slopes

#### Component Description

#### Klossner, drained, and similar soils

Extent: 65 to 85 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions Slope range: 0 to 1 percent

Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Organic material over till

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding does not occur (months): January, February, May, June, July, August, September, October, November, December

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 17.7 inches

Content of organic matter in the upper 10 inches: 50 percent

Typical profile:

Op,Oa—0 to 26 inches; muck

2A1—26 to 36 inches; mucky silty clay loam

2A2—36 to 48 inches; silty clay loam

2Cg—48 to 80 inches; loam

#### Mineral soil, drained

Classification: Loamy, mixed, superactive, mesic

Cumulic Endoaquolls

Extent: 5 to 20 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2

feet (February, August)

Ponding does not occur (months): January, February, May, June, July, August, September, October, November, December

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 11.1 inches

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

Ap—0 to 13 inches; loam

A,Bg1—13 to 31 inches; clay loam

Bg2—31 to 45 inches; clay loam

Cg-45 to 80 inches; loam

#### Houghton, drained

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Organic material

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding does not occur (months): January, February, May, June, July, August, September, October, November, December

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 23.9

Content of organic matter in the upper 10 inches: 75 percent

Typical profile:

Op—0 to 10 inches; muck Oa—10 to 80 inches; muck

## L14A—Houghton muck, depressional, 0 to 1 percent slopes

#### Component Description

#### Houghton, drained, and similar soils

Extent: 65 to 85 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

nches)

Drainage class: Very poorly drained Parent material: Organic material

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding does not occur (months): January, February, May, June, July, August, September, October, November, December

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 23.9 inches

Content of organic matter in the upper 10 inches: 75 percent

Typical profile:

Op—0 to 10 inches; muck Oa—10 to 80 inches; muck

#### Klossner, drained

Extent: 5 to 20 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Organic material over till

Floodina: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding does not occur (months): January, February, May, June, July, August, September, October, November, December Ponding is deepest (depth, months): 1 foot (April)
Available water capacity to a depth of 60 inches: 17.7 inches

Content of organic matter in the upper 10 inches: 50 percent

#### Typical profile:

Op,Oa-0 to 26 inches; muck

2A1-26 to 36 inches; mucky silty clay loam

2A2—36 to 48 inches; silty clay loam

2Cg-48 to 80 inches; loam

#### Mineral soil, drained

Classification: Loamy, mixed, superactive, mesic

Cumulic Endoaquolls

Extent: 5 to 20 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2

feet (February, August)

Ponding does not occur (months): January, February, May, June, July, August, September, October,

November, December

Ponding is deepest (depth, months): 1 foot (April)
Available water capacity to a depth of 60 inches: 11.1
inches

Content of organic matter in the upper 10 inches: 7.5 percent

#### Typical profile:

Ap—0 to 13 inches; loam

A,Bg1—13 to 31 inches; clay loam

Bg2—31 to 45 inches; clay loam

Cg—45 to 80 inches; loam

## L15A—Klossner, Okoboji, and Glencoe soils, ponded, 0 to 1 percent slopes

#### Component Description

#### Klossner, ponded, and similar soils

Extent: 0 to 100 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Muck Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained Parent material: Organic material over till

Flooding: None

Wet soil moisture status: At the surface all year Ponding is shallowest (depth, months): 0.5 foot (August) Ponding is deepest (depth, months): 3 feet (March, April, May)

Available water capacity to a depth of 60 inches: 17.4 inches

Content of organic matter in the upper 10 inches: 42.5 percent

#### Typical profile:

Oa—0 to 26 inches; muck 2A1—26 to 33 inches; silt loam 2A2—33 to 40 inches; loam 2Cg—40 to 80 inches; loam

#### Okoboji, ponded, and similar soils

Extent: 0 to 100 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Mucky silty clay loam Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material: Alluvium or lacustrine sediments over till

Flooding: None

Wet soil moisture status: At the surface all year Ponding is shallowest (depth, months): 0.5 foot (August) Ponding is deepest (depth, months): 3 feet (March, April, May)

Available water capacity to a depth of 60 inches: 11.9 inches

Content of organic matter in the upper 10 inches: 14 percent

#### Typical profile:

A1—0 to 10 inches; mucky silty clay loam A2—10 to 52 inches; silty clay loam Bq—52 to 60 inches; silty clay loam

#### Glencoe, ponded, and similar soils

Extent: 0 to 100 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Till

Flooding: None

Wet soil moisture status: At the surface all year Ponding is shallowest (depth, months): 0.5 foot (August)

Ponding is deepest (depth, months): 3 feet (March, April, May)

Available water capacity to a depth of 60 inches: 11.4 inches

Content of organic matter in the upper 10 inches: 7 percent

Typical profile:

A—0 to 42 inches; silty clay loam Bg—42 to 50 inches; clay loam Cq—50 to 60 inches; loam

#### Houghton, ponded

Extent: 0 to 20 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Organic material

Flooding: None

Wet soil moisture status: At the surface all year Ponding is shallowest (depth, months): 0.5 foot (August)

Ponding is deepest (depth, months): 3 feet (March, April, May)

Available water capacity to a depth of 60 inches: 23.9 inches

Content of organic matter in the upper 10 inches: 84.5 percent

Typical profile:

Oa-0 to 80 inches; muck

#### L16A—Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes

#### Component Description

#### Muskego, ponded, and similar soils

Extent: 0 to 100 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material: Organic material over coprogenous

Flooding: None

Wet soil moisture status: At the surface all year Ponding is shallowest (depth, months): 0.5 foot (August)

Ponding is deepest (depth, months): 3 feet (March, April, May)

Available water capacity to a depth of 60 inches: 19.4 inches

Content of organic matter in the upper 10 inches: 75 percent

Typical profile:

Oa1—0 to 9 inches; muck Oa2—9 to 36 inches; muck

Lco—36 to 60 inches; coprogenous earth

#### Blue Earth, ponded, and similar soils

Extent: 0 to 100 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Silt loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Coprogenous earth

Flooding: None

Wet soil moisture status: At the surface all year Ponding is shallowest (depth, months): 0.5 foot (August)

Ponding is deepest (depth, months): 3 feet (March, April, May)

Available water capacity to a depth of 60 inches: 12.6 inches

Content of organic matter in the upper 10 inches: 17.5 percent

Typical profile:

A—0 to 50 inches; silt loam Cg—50 to 60 inches; silt loam

#### Houghton, ponded, and similar soils

Extent: 0 to 100 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Organic material

Flooding: None

Wet soil moisture status: At the surface all year Ponding is shallowest (depth, months): 0.5 foot (August)

Ponding is deepest (depth, months): 3 feet (March, April, May)

Available water capacity to a depth of 60 inches: 23.9

Content of organic matter in the upper 10 inches: 84.5 percent

Typical profile:

Oa-0 to 80 inches; muck

#### Klossner, ponded

Extent: 0 to 20 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Organic material over till

Flooding: None

Wet soil moisture status: At the surface all year Ponding is shallowest (depth, months): 0.5 foot (August)

Ponding is deepest (depth, months): 3 feet (March, April, May)

Available water capacity to a depth of 60 inches: 17.4

Content of organic matter in the upper 10 inches: 42.5 percent

Typical profile:

Oa—0 to 26 inches: muck 2A1-26 to 33 inches; silt loam 2A2—33 to 40 inches; loam 2Cg-40 to 80 inches; loam

#### L26B—Shorewood silty clay loam, 3 to 6 percent slopes

#### Component Description

#### Shorewood and similar soils

Extent: 85 to 95 percent of the unit

Geomorphic setting: Hills on lake plains; hills on moraines

Position on the landform: Backslopes and summits

Slope range: 3 to 6 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained

Parent material: Lacustrine sediments over till

Floodina: None

Wet soil moisture status is highest (depth, months): 1.5 feet (April)

Wet soil moisture status is lowest (depth, months): More than 5 feet (January, February, July, August, September, October)

Ponding: None

Available water capacity to a depth of 60 inches: 10.2 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 17 inches; silty clay loam

Bt—17 to 39 inches; silty clay 2BCg,2Cg—39 to 60 inches; loam

#### **Good Thunder**

Extent: 0 to 10 percent of the unit

Geomorphic setting: Lake plains and moraines Position on the landform: Flats and slight rises

Slope range: 0 to 3 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months): 2.5 feet (April, May)

Wet soil moisture status is lowest (depth, months): 5.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.6

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 15 inches; silty clay loam Bt—15 to 32 inches; silty clay C-32 to 80 inches: silt loam

#### Minnetonka

Extent: 0 to 10 percent of the unit

Geomorphic setting: Lake plains and moraines Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.8

Content of organic matter in the upper 10 inches: 5 percent

Typical profile:

Ap,A—0 to 13 inches; silty clay loam Btg—13 to 35 inches; silty clay Cg—35 to 60 inches; silty clay loam

#### L36A—Hamel, overwash-Hamel complex, 1 to 4 percent slopes

#### Component Description

#### Hamel, overwash, and similar soils

Extent: 40 to 60 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 4 percent
Texture of the surface laver: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months): 1.5 feet (April)

Wet soil moisture status is lowest (depth, months): 4.5 feet (August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.8 inches

Content of organic matter in the upper 10 inches: 3.5 percent

Typical profile:

Ap—0 to 13 inches; loam A—13 to 29 inches; clay loam Btg—29 to 50 inches; clay loam Cg—50 to 80 inches; loam

#### Hamel and similar soils

Extent: 30 to 55 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.6 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 24 inches; loam Btg—24 to 46 inches; clay loam Cg—46 to 80 inches; loam

#### Terril

Extent: 0 to 10 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months): 3.6 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 6.7 feet (January, February, July,
August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A1—0 to 27 inches; loam A2,BA—27 to 40 inches; loam Bw—40 to 63 inches; loam C—63 to 80 inches; loam

#### Glencoe

Extent: 0 to 5 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Till

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding does not occur (months): January, February, May, June, July, August, September, October, November, December

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 11.1 inches

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

Ap—0 to 13 inches; loam A,Bg1—13 to 31 inches; clay loam

Bg2—31 to 45 inches; loam Cg—45 to 80 inches; loam

## L40B—Angus-Kilkenny complex, 2 to 6 percent slopes

#### Component Description

#### Angus and similar soils

Extent: 35 to 55 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and summits

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): 3.6 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5 inches

Content of organic matter in the upper 10 inches: 2.5 percent

Typical profile:

Ap—0 to 8 inches; loam Bt—8 to 35 inches; clay loam BC—35 to 40 inches; clay loam C—40 to 80 inches; loam

#### Kilkenny and similar soils

Extent: 30 to 50 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Summits and shoulders

Slope range: 2 to 6 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained

Parent material: Glaciofluvial sediments and reworked till over till

Flooding: None

Wet soil moisture status is highest (depth, months): 1.7 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 6.7 feet (February, July, August,
September)

Ponding: None

Available water capacity to a depth of 60 inches: 10.3 inches

Content of organic matter in the upper 10 inches: 3 percent

Typical profile:

Ap—0 to 11 inches; clay loam Bt—11 to 35 inches; clay loam 2Bk,2C—35 to 80 inches; loam

#### Lerdal

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: More than 60 inches Drainage class: Somewhat poorly drained

Parent material: Glaciofluvial sediments and reworked till over till

Flooding: None

Wet soil moisture status is highest (depth, months): 1.6 feet (November)

Wet soil moisture status is lowest (depth, months): 4.9 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.2 inches

Content of organic matter in the upper 10 inches: 2.6 percent

Typical profile:

Ap—0 to 8 inches; clay loam E—8 to 12 inches; clay loam Bt,Btg—12 to 41 inches; silty clay loam

Bk-41 to 80 inches; loam

#### Mazaska

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines Position on the landform: Swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam Depth to restrictive feature: More than 60 inches

Drainage class: Poorly drained

Parent material: Glaciofluvial sediments and reworked

till over till Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 9.5

inches

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 15 inches; silty clay loam

Btg—15 to 42 inches; clay Bkg—42 to 80 inches; loam

## L41C2—Lester-Kilkenny complex, 6 to 12 percent slopes, eroded

#### **Component Description**

#### Lester, eroded, and similar soils

Extent: 40 to 50 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and shoulders

Slope range: 6 to 12 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Floodina: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 1.6 percent

Typical profile:

Ap—0 to 7 inches; loam Bt—7 to 38 inches; clay loam Bk—38 to 60 inches; loam C—60 to 80 inches; loam

#### Kilkenny, eroded, and similar soils

Extent: 35 to 45 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Summits and shoulders

Slope range: 6 to 12 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained

Parent material: Glaciofluvial sediments and reworked

till over till Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet (April)

Wet soil moisture status is lowest (depth, months): More than 6.7 feet (January, February, March,

June, July, August, September, October,

November, December)

Ponding: None

Available water capacity to a depth of 60 inches: 10.3

inches

Content of organic matter in the upper 10 inches: 1.9

percent Typical profile:

Ap—0 to 9 inches; clay loam

Bt—9 to 53 inches; clay loam

2BC,2C-53 to 80 inches; loam

#### Terril

Extent: 5 to 15 percent of the unit

Geomorphic setting: Hills on moraines

Position on the landform: Footslopes

Slope range: 0 to 4 percent

Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained

Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4

inches

Content of organic matter in the upper 10 inches: 4

percent

Typical profile:

Ap,A1—0 to 27 inches; loam

A2,BA-27 to 40 inches; loam

Bw-40 to 63 inches; loam

C—63 to 80 inches; loam

#### Derrynane

Extent: 2 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Colluvium or glaciofluvial sediments

over till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10

inches

Content of organic matter in the upper 10 inches: 6

percent
Typical profile:

Ap,A1—0 to 19 inches; clay loam

A2—19 to 39 inches; silty clay

Bg,2Bg-39 to 65 inches; clay loam

2Cg-65 to 80 inches; loam

## L41D2—Lester-Kilkenny complex, 12 to 18 percent slopes, eroded

#### Component Description

#### Lester, eroded, and similar soils

Extent: 40 to 50 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and shoulders

Slope range: 12 to 18 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 1.6

percent

Typical profile:

Ap—0 to 7 inches; loam

Bt-7 to 38 inches; clay loam

Bk-38 to 60 inches; loam

C-60 to 80 inches; loam

#### Kilkenny, eroded, and similar soils

Extent: 25 to 45 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Summits and shoulders

Slope range: 12 to 18 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained

Parent material: Glaciofluvial sediments and reworked

till over till Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet (January, February, March, June, July, August, September, October,

November, December)

Ponding: None

Available water capacity to a depth of 60 inches: 10.3

inches

Content of organic matter in the upper 10 inches: 1.9

percent

Typical profile:

Ap—0 to 9 inches; clay loam Bt—9 to 53 inches; clay loam

2BC,2C-53 to 80 inches; loam

#### Terril

Extent: 5 to 15 percent of the unit

Geomorphic setting: Hills on moraines

Position on the landform: Footslopes

Slope range: 0 to 4 percent

Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained

Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4

inches

Content of organic matter in the upper 10 inches: 4

percent

Typical profile:

Ap,A1—0 to 27 inches; loam

A2,BA-27 to 40 inches; loam

Bw—40 to 63 inches; loam C—63 to 80 inches; loam

#### Derrynane

Extent: 2 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Colluvium or glaciofluvial sediments

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10

inches

Content of organic matter in the upper 10 inches: 6

percent Typical profile:

Ap,A1—0 to 19 inches; clay loam

A2—19 to 39 inches; silty clay

Bg,2Bg—39 to 65 inches; clay loam

2Cg—65 to 80 inches; loam

#### Ridgeton

Extent: 0 to 10 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes and

backslopes

Slope range: 8 to 14 percent
Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained Parent material: Colluvium over till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 11.2

inches

Content of organic matter in the upper 10 inches: 4

percent Typical profile:

> Ap,A1—0 to 23 inches; loam A2,AB—23 to 38 inches; loam Bw—38 to 50 inches; loam

C-50 to 80 inches; loam

## L41E—Lester-Kilkenny complex, 18 to 25 percent slopes

#### **Component Description**

#### Lester and similar soils

Extent: 40 to 50 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and backslopes

Slope range: 18 to 25 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.4

inches

Content of organic matter in the upper 10 inches: 3

percent

Typical profile:

A—0 to 5 inches; loam

BE,Bt—5 to 34 inches; clay loam

Bk-34 to 60 inches; loam

C—60 to 80 inches; loam

#### Kilkenny and similar soils

Extent: 35 to 45 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and summits

Slope range: 18 to 25 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained

Parent material: Glaciofluvial sediments and reworked

till over till Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet (January, February, March, June, July, August, September, October,

November, December)

Ponding: None

Available water capacity to a depth of 60 inches: 10.2

Content of organic matter in the upper 10 inches: 2.7 percent

Typical profile:

A—0 to 7 inches; clay loam

Bt—7 to 31 inches; clay loam 2Bk,2C—31 to 80 inches; loam

#### Terril

Extent: 5 to 15 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 0 to 4 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months): 3.6 feet (April)

Wet soil moisture status is lowest (depth, months): More than 6.7 feet (January, February, July, August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 11.3 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

A1,A2—0 to 24 inches; loam AB—24 to 37 inches; loam Bw—37 to 57 inches; loam C—57 to 80 inches; loam

#### Derrynane

Extent: 2 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Colluvium or glaciofluvial sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

A1—0 to 20 inches; clay loam

A2—20 to 40 inches; clay loam, silty clay

Btg—40 to 54 inches; clay loam 2Cg—54 to 80 inches; loam

#### Ridgeton

Extent: 0 to 10 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Footslopes and backslopes

Slope range: 10 to 20 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained Parent material: Colluvium over till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 11.4

inches

Content of organic matter in the upper 10 inches: 5 percent

Typical profile:

A1,A2,A3—0 to 32 inches; loam Bw—32 to 40 inches; loam C1,C2—40 to 80 inches; loam

## L48A—Derrynane, overwash-Derrynane complex, 1 to 4 percent slopes

#### Component Description

#### Derrynane, overwash, and similar soils

Extent: 40 to 60 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 4 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Colluvium or glaciofluvial sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): 1.5 feet (April)

Wet soil moisture status is lowest (depth, months): 4.5 feet (August)

Pondina: None

Available water capacity to a depth of 60 inches: 9.7 inches

Content of organic matter in the upper 10 inches: 3 percent

Typical profile:

Ap,A1—0 to 16 inches; clay loam

A2, AE, Bt—16 to 48 inches; clay loam Btg-48 to 67 inches; clay loam Cg-67 to 80 inches; loam

#### Derrynane and similar soils

Extent: 30 to 55 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

Drainage class: Poorly drained

Parent material: Colluvium or glaciofluvial sediments

over till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6

feet (February, August)

Pondina: None

Available water capacity to a depth of 60 inches: 10

Content of organic matter in the upper 10 inches: 6

percent Typical profile:

Ap,A1—0 to 19 inches; clay loam

A2-19 to 39 inches; silty clay

Bg,2Bg—39 to 65 inches; clay loam

2Cg—65 to 80 inches; loam

#### Glencoe

Extent: 5 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2

feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot

(March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 11.2

inches

Content of organic matter in the upper 10 inches: 7.5

percent

Typical profile:

Ap—0 to 10 inches; clay loam A,ABg—10 to 35 inches; clay loam

Bg—35 to 48 inches; loam

Cg-48 to 60 inches; loam

#### Terril

Extent: 5 to 10 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 2 to 6 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

Drainage class: Moderately well drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4

Content of organic matter in the upper 10 inches: 4

percent

Typical profile:

Ap,A1—0 to 27 inches; loam

A2,BA—27 to 40 inches; loam

Bw-40 to 63 inches; loam

C—63 to 80 inches; loam

#### L49A—Klossner soils, depressional, 0 to 1 percent slopes

#### Component Description

#### Klossner, surface drained, and similar soils

Extent: 50 to 100 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Organic material over till

Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (April, May, June)

Wet soil moisture status is lowest (depth, months): 1.5 feet (February)

Ponding does not occur (months): January, February, July, August, September, October, November, December

Ponding is deepest (depth, months): 1 foot (March, April, May)

Available water capacity to a depth of 60 inches: 17.4 inches

Content of organic matter in the upper 10 inches: 42.5 percent

Typical profile:

Oa—0 to 26 inches; muck 2A1—26 to 33 inches; silt loam 2A2—33 to 40 inches; loam 2Cg—40 to 80 inches; loam

#### Klossner, drained, and similar soils

Extent: 0 to 40 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained Parent material: Organic material over till

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding does not occur (months): January, February, May, June, July, August, September, October, November, December

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 17.7 inches

Content of organic matter in the upper 10 inches: 50 percent

Typical profile:

Op,Oa—0 to 26 inches; muck

2A1—26 to 36 inches; mucky silty clay loam

2A2-36 to 48 inches; silty clay loam

2Cg-48 to 80 inches; loam

#### Mineral soil, drained

Classification: Loamy, mixed, superactive, mesic

Cumulic Endoaquolls

Extent: 5 to 25 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Loam Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding does not occur (months): January, February, May, June, July, August, September, October, November, December

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 11.1 inches

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

Ap-0 to 13 inches; loam

A,Bg1—13 to 31 inches; clay loam Bg2—31 to 45 inches; clay loam Cg—45 to 80 inches; loam

## L50A—Houghton and Muskego soils, depressional, 0 to 1 percent slopes

#### **Component Description**

#### Houghton, surface drained, and similar soils

Extent: 20 to 60 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions

Position on the landform: Depressions
Slope range: 0 to 1 percent

Slope range: 0 to 1 percent
Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Organic material

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (April, May, June)

Wet soil moisture status is lowest (depth, months): 1.5 feet (February)

Ponding does not occur (months): January, February, July, August, September, October, November, December

Ponding is deepest (depth, months): 1 foot (March, April, May)

Available water capacity to a depth of 60 inches: 23.9 inches

Content of organic matter in the upper 10 inches: 84.5 percent

Typical profile:

Oa-0 to 80 inches; muck

#### Muskego, surface drained, and similar soils

Extent: 20 to 60 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions

Slope range: 0 to 1 percent

Slope range: 0 to 1 percent
Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Organic material over coprogenous

earth Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (April, May, June)

Wet soil moisture status is lowest (depth, months): 1.5 feet (February)

Ponding does not occur (months): January, February, July, August, September, October, November, December

Ponding is deepest (depth, months): 1 foot (March, April, May)

Available water capacity to a depth of 60 inches: 19.4 inches

Content of organic matter in the upper 10 inches: 75 percent

Typical profile:

Oa1—0 to 9 inches; muck Oa2—9 to 36 inches; muck

Lco—36 to 60 inches; coprogenous earth

#### Klossner, drained

Extent: 0 to 20 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Organic material over till

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding does not occur (months): January, February, May, June, July, August, September, October, November, December

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 17.7 inches

Content of organic matter in the upper 10 inches: 50 percent

Typical profile:

Op,Oa—0 to 26 inches; muck

2A1—26 to 36 inches; mucky silty clay loam

2A2—36 to 48 inches; silty clay loam

2Cg—48 to 80 inches; loam

#### Mineral soil, drained

Classification: Loamy, mixed, superactive, mesic

Cumulic Endoaquolls

Extent: 0 to 20 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding does not occur (months): January, February, May, June, July, August, September, October, November, December

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 11.1 inches

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

Ap-0 to 13 inches; loam

A,Bg1—13 to 31 inches; clay loam Bg2—31 to 45 inches; clay loam Cg—45 to 80 inches; loam

## L51C2—Gladek silt loam, 6 to 12 percent slopes, eroded

#### Component Description

#### Gladek, eroded, and similar soils

Extent: 70 to 90 percent of the unit Geomorphic setting: Hills on lake plains

Position on the landform: Backslopes and shoulders

Slope range: 6 to 12 percent

Texture of the surface layer: Silt loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Lacustrine sediments

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 11.6

inches

Content of organic matter in the upper 10 inches: 3

percent Typical profile:

> Ap—0 to 10 inches; silt loam Bt—10 to 39 inches; silt loam C—39 to 80 inches; silt loam

## **Barrington**

Extent: 5 to 25 percent of the unit Geomorphic setting: Hills on lake plains

Position on the landform: Summits and backslopes

Slope range: 2 to 6 percent

Texture of the surface layer: Silt loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 9.4

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Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A—0 to 15 inches; silt loam Bt—15 to 33 inches; silt loam

C—33 to 60 inches; stratified loamy very fine sand to silt loam

### Lester, eroded

Extent: 0 to 10 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and backslopes

Slope range: 6 to 12 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 1.6 percent

Typical profile:

Ap—0 to 7 inches; loam Bt—7 to 38 inches; clay loam Bk—38 to 60 inches; loam C—60 to 80 inches: loam

### Madelia

Extent: 0 to 10 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.7

inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 19 inches; silty clay loam Bg—19 to 37 inches; silty clay loam Cg—37 to 60 inches; silt loam

## L56A—Muskego and Klossner soils, 0 to 1 percent slopes, frequently flooded

## **Component Description**

## Muskego, frequently flooded, and similar soils

Extent: 30 to 100 percent of the unit Geomorphic setting: Flood plains Position on the landform: Flats Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches

Drainage class: Very poorly drained

Parent material: Organic material over coprogenous

earth

Flooding does not occur (months): January, February, August, September, October, November,

December

Flooding is most likely (frequency, months): Frequent (March, April, May, June)

Wet soil moisture status is highest (depth, months): At the surface (April, May, June)

Wet soil moisture status is lowest (depth, months): 1.5 feet (February)

Ponding is shallowest (depth, months): 0.5 foot (June) Ponding is deepest (depth, months): 1 foot (March, April, May)

Available water capacity to a depth of 60 inches: 19.4 inches

Content of organic matter in the upper 10 inches: 75 percent

Typical profile:

Oa1—0 to 9 inches; muck Oa2—9 to 36 inches; muck

Lco—36 to 60 inches; coprogenous earth

## Klossner, frequently flooded, and similar soils

Extent: 30 to 100 percent of the unit Geomorphic setting: Flood plains Position on the landform: Flats Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Organic material over till

Flooding does not occur (months): January, February, August, September, October, November, December

Flooding is most likely (frequency, months): Frequent (March, April, May, June)

Wet soil moisture status is highest (depth, months): At the surface (April, May, June)

Wet soil moisture status is lowest (depth, months): 1.5 feet (February)

Ponding is shallowest (depth, months): 0.5 foot (June) Ponding is deepest (depth, months): 1 foot (March, April, May)

Available water capacity to a depth of 60 inches: 17.4 inches

Content of organic matter in the upper 10 inches: 42.5 percent

Typical profile:

Oa—0 to 26 inches; muck 2A1—26 to 33 inches; silt loam 2A2—33 to 40 inches; loam 2Cg—40 to 80 inches; loam

## Suckercreek, frequently flooded

Extent: 0 to 40 percent of the unit Geomorphic setting: Flood plains Position on the landform: Flats Slope range: 0 to 2 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material: Alluvium

Flooding does not occur (months): January, February, August, September, October, November, December

Flooding is most likely (frequency, months): Frequent (March, April, May, June)

Wet soil moisture status is highest (depth, months): At the surface (April, May, June)

Wet soil moisture status is lowest (depth, months): 1.8 feet (February)

Ponding: None

Available water capacity to a depth of 60 inches: 9.9 inches

Content of organic matter in the upper 10 inches: 5 percent

Typical profile:

A-0 to 22 inches; loam

Cg-22 to 80 inches; loamy fine sand

## L57A—Medo muck, depressional, 0 to 1 percent slopes

## Component Description

## Medo, drained, and similar soils

Extent: 65 to 85 percent of the unit

Geomorphic setting: Depressions on stream terraces and outwash plains

Slope range: 0 to 1 percent
Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material: Organic material over outwash

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 14.3 inches

Content of organic matter in the upper 10 inches: 70 percent

Typical profile:

Op,Oa—0 to 27 inches; muck

2A-27 to 35 inches; mucky loam

2Bg—35 to 39 inches; sandy clay loam

2Cg-39 to 80 inches; gravelly loamy coarse sand

### Mineral soil, drained

Classification: Coarse-loamy, mixed, superactive,

mesic Typic Endoaquolls Extent: 5 to 20 percent of the unit

Geomorphic setting: Depressions on stream terraces

and outwash plains Slope range: 0 to 1 percent

Texture of the surface layer: Fine sandy loam

Depth to restrictive feature: Very deep (more than 60

Drainage class: Very poorly drained

Parent material: Outwash

Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2

feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot

(March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 6.8

Content of organic matter in the upper 10 inches: 8 percent

Typical profile:

Ap, A3—0 to 23 inches; fine sandy loam

Bg—23 to 31 inches; stratified loamy fine sand to fine sandy loam

2Cg—31 to 60 inches; stratified loamy sand to coarse sand

## Houghton, drained

Extent: 0 to 10 percent of the unit

Geomorphic setting: Depressions on stream terraces

and outwash plains Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Organic material

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2

feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 23.9

Content of organic matter in the upper 10 inches: 75 percent

Typical profile:

Op—0 to 10 inches; muck Oa—10 to 80 inches; muck

## L63A—Klossner muck, lake plain, depressional, 0 to 1 percent slopes

## Component Description

## Klossner and similar soils

Extent: 75 to 95 percent of the unit Geomorphic setting: Lake plains Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Organic material over lacustrine

sediments Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2

feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot

(March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 17.4

Content of organic matter in the upper 10 inches: 42.5 percent

Typical profile:

Op,Oa—0 to 25 inches; muck

2A—25 to 40 inches; silty clay loam

2Cg—40 to 80 inches; silty clay loam

#### Lura

Extent: 5 to 15 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Silty clay

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April) Available water capacity to a depth of 60 inches: 9.6

Content of organic matter in the upper 10 inches: 8 percent

Typical profile:

Ap—0 to 10 inches; silty clay A-10 to 58 inches; clay Bg—58 to 72 inches; silty clay

### **Brownton**

Extent: 0 to 10 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Rims of depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6 feet (February, August)

Pondina: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 22 inches; silty clay loam

Bg—22 to 38 inches; silty clay 2Cg—38 to 60 inches; loam

## L64A—Tadkee-Tadkee, depressional, complex, 0 to 2 percent slopes

## Component Description

### Tadkee and similar soils

Extent: 20 to 70 percent of the unit

Geomorphic setting: Beaches on moraines

Position on the landform: Flats Slope range: 0 to 2 percent

Texture of the surface layer: Loamy fine sand

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Beach sand over till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 7.6

Content of organic matter in the upper 10 inches: 4.3 percent

Typical profile:

A—0 to 6 inches; loamy fine sand

Bg—6 to 34 inches; sand 2Cg—34 to 80 inches; loam

## Tadkee, depressional, and similar soils

Extent: 20 to 70 percent of the unit

Geomorphic setting: Beaches on moraines Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Mucky loamy fine sand Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Beach sand over till

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April, May, June)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (June) Ponding is deepest (depth, months): 1 foot (March, April, May)

Available water capacity to a depth of 60 inches: 9.8

Content of organic matter in the upper 10 inches: 12.1 percent

Typical profile:

A-0 to 6 inches; mucky loamy fine sand

Bg—6 to 27 inches; sand 2Cg—27 to 80 inches; loam

## Better drained soil

Classification: Sandy over loamy, mixed, superactive,

mesic Aquic Udorthents Extent: 0 to 20 percent of the unit

Geomorphic setting: Beaches on moraines

Position on the landform: Slight rises

Slope range: 0 to 3 percent

Texture of the surface layer: Loamy sand

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Outwash over till

Flooding: None

Wet soil moisture status is highest (depth, months): 2.5 feet (April)

Wet soil moisture status is lowest (depth, months): More than 6.7 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 8.2 inches

Content of organic matter in the upper 10 inches: 2.1 percent

Typical profile:

A—0 to 6 inches; loamy sand Bw—6 to 25 inches; loamy sand 2Cg—25 to 80 inches; loam

## Granby

Extent: 0 to 6 percent of the unit

Geomorphic setting: Beaches on moraines Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Loamy fine sand

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Outwash

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April, May, June)

Wet soil moisture status is lowest (depth, months): 1.8 feet (August)

Ponding is shallowest (depth, months): 0.5 foot (June)
Ponding is deepest (depth, months): 1 foot (March,
April, May)

Available water capacity to a depth of 60 inches: 4.9 inches

Content of organic matter in the upper 10 inches: 7 percent

Typical profile:

A—0 to 12 inches; loamy fine sand AC—12 to 24 inches; loamy fine sand C—24 to 60 inches; loamy fine sand

## Less sandy soil

Classification: Fine-loamy, mixed, superactive, calcareous, mesic Mollic Endoaquepts

Extent: 0 to 5 percent of the unit

Geomorphic setting: Beaches on moraines

Position on the landform: Flats Slope range: 0 to 2 percent

Texture of the surface layer: Loamy fine sand

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 9.9

Content of organic matter in the upper 10 inches: 2.9 percent

Typical profile:

A-0 to 4 inches; loamy fine sand

Bg—4 to 20 inches; loam Cg—20 to 80 inches; loam

## L73A—Blue Earth mucky silty clay loam, depressional, 0 to 1 percent slopes

## Component Description

## Blue Earth and similar soils

Extent: 70 to 90 percent of the unit

Geomorphic setting: Lake plains and moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Mucky silty clay loam Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material: Coprogenous earth over till

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 12.6 inches

Content of organic matter in the upper 10 inches: 17.5 percent

Typical profile:

Ap—0 to 10 inches; mucky silty clay loam Cg—10 to 68 inches; mucky silty clay loam 2Cq—68 to 80 inches; loam

## **Belleville**

Extent: 5 to 15 percent of the unit Geomorphic setting: Beaches on moraines Position on the landform: Flats

Slope range: 0 to 2 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Glaciolacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 2

feet (August)
Ponding: None

Available water capacity to a depth of 60 inches: 8.4

inches

Content of organic matter in the upper 10 inches: 4.5

percent Typical profile:

Ap—0 to 11 inches; sandy loam

Bg—11 to 27 inches; loamy sand 2Bg—27 to 48 inches; loam

2Cg—48 to 80 inches; loam

#### Canisteo

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and rims of depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.3

inches

Content of organic matter in the upper 10 inches: 5.5

percent

Typical profile:

Ap,A—0 to 18 inches; clay loam Bkg—18 to 39 inches; loam

Cg-39 to 80 inches; loam

## L74A—Estherville sandy loam, terrace, 0 to 2 percent slopes

## Component Description

## Estherville and similar soils

Extent: 80 to 90 percent of the unit

Geomorphic setting: Stream terraces

Position on the landform: Flats and slight rises

Slope range: 0 to 2 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat excessively drained

Parent material: Outwash

Flooding: None

Depth to wet soil moisture status: More than 5 feet all

year

Ponding: None

Available water capacity to a depth of 60 inches: 4.1

nches

Content of organic matter in the upper 10 inches: 3

percent

Typical profile:

Ap,A—0 to 13 inches; sandy loam

Bw1—13 to 18 inches; sandy loam

2Bw2—18 to 23 inches; loamy coarse sand

2C—23 to 60 inches; gravelly coarse sand

#### Hawick

Extent: 5 to 15 percent of the unit

Geomorphic setting: Hills on outwash plains

Position on the landform: Summits and backslopes

Slope range: 2 to 4 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Excessively drained

Parent material: Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year

Ponding: None

Available water capacity to a depth of 60 inches: 2.7

inches

Content of organic matter in the upper 10 inches: 1.5

percent
Typical profile:

Ap-0 to 7 inches; sandy loam

Bw,C-7 to 80 inches; gravelly coarse sand

## **Biscay**

Extent: 0 to 5 percent of the unit Geomorphic setting: Outwash plains

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Outwash

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 2 feet (August)

Ponding: None

Available water capacity to a depth of 60 inches: 7.5

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 20 inches; loam Bg—20 to 28 inches; loam

2BCg—28 to 36 inches; gravelly loam

2Cg—36 to 60 inches; gravelly coarse sand

## L75B—Barrington silt loam, 2 to 6 percent slopes

## **Component Description**

## Barrington and similar soils

Extent: 70 to 90 percent of the unit Geomorphic setting: Hills on lake plains

Position on the landform: Backslopes and summits

Slope range: 2 to 6 percent

Texture of the surface layer: Silt loam

Depth to restrictive feature: Very deep (more than 60

inches'

Drainage class: Moderately well drained Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months): 2.5 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 5 feet (February, August)

Pondina: None

Available water capacity to a depth of 60 inches: 9.4 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A—0 to 15 inches; silt loam Bt—15 to 33 inches; silt loam

C—33 to 60 inches; stratified loamy very fine sand to silt loam

### **Gladek**

Extent: 5 to 15 percent of the unit Geomorphic setting: Hills on lake plains

Position on the landform: Shoulders and backslopes

Slope range: 6 to 12 percent

Texture of the surface layer: Silt loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Lacustrine sediments

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 11.6

inches

Content of organic matter in the upper 10 inches: 3 percent

Typical profile:

Ap—0 to 10 inches; silt loam

Bt—10 to 39 inches; silty clay loam, silt loam C—39 to 80 inches; silt loam, very fine sandy loam

## Madelia

Extent: 0 to 5 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.7

inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 19 inches; silty clay loam Bg—19 to 37 inches; silty clay loam

Cg-37 to 60 inches; silt loam

## L76B—Dickinson fine sandy loam, 1 to 6 percent slopes

## **Component Description**

## Dickinson and similar soils

Extent: 70 to 90 percent of the unit

Geomorphic setting: Hills on deltas; hills on outwash

plains

Position on the landform: Summits and backslopes

Slope range: 1 to 6 percent

Texture of the surface layer: Fine sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained Parent material: Outwash

Flooding: None

Depth to wet soil moisture status: More than 5 feet all

year Pondina: None

Available water capacity to a depth of 60 inches: 6.1

inches

Content of organic matter in the upper 10 inches: 1.5

percent Typical profile:

> Ap,A—0 to 14 inches; fine sandy loam Bw—14 to 39 inches; fine sandy loam C—39 to 60 inches; loamy fine sand

Litchfield

Extent: 5 to 15 percent of the unit

Geomorphic setting: Outwash plains, terraces, and

deltas

Position on the landform: Flats and slight rises

Slope range: 0 to 3 percent

Texture of the surface layer: Loamy fine sand

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Outwash

Floodina: None

Wet soil moisture status is highest (depth, months):

1.3 feet (April)

Wet soil moisture status is lowest (depth, months): 3

feet (August)
Ponding: None

Available water capacity to a depth of 60 inches: 7.2

inches

Content of organic matter in the upper 10 inches: 2

percent
Typical profile:

Ap,A,AB—0 to 20 inches; loamy fine sand

Bw—20 to 33 inches; fine sand

BC—33 to 40 inches; very fine sandy loam

C-40 to 80 inches; loamy fine sand

**Darfur** 

Extent: 0 to 10 percent of the unit Geomorphic setting: Outwash plains Position on the landform: Flats

Slope range: 0 to 2 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Outwash

Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (April)

Wet soil moisture status is lowest (depth, months): 2

feet (August)
Ponding: None

Available water capacity to a depth of 60 inches: 8.5

inches

Content of organic matter in the upper 10 inches: 6.3

percent Typical profile:

Ap—0 to 9 inches; loam

A,AB—9 to 19 inches; loam

Bg—19 to 31 inches; fine sandy loam

Cg—31 to 60 inches; stratified fine sand to loamy

fine sand to fine sandy loam

Clarion

Extent: 0 to 5 percent of the unit

Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and summits

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (January, February, July, August,

September, October, December)

Ponding: None

Available water capacity to a depth of 60 inches: 10.9

inches

Content of organic matter in the upper 10 inches: 4.5

percent

Typical profile:

Ap,A—0 to 14 inches; loam

Bw—14 to 33 inches; loam

C-33 to 60 inches; loam

## L77A—Brownton silty clay loam, 0 to 2 percent slopes

## Component Description

## Brownton and similar soils

Extent: 65 to 90 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Rims of depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 22 inches; silty clay loam

Bg—22 to 38 inches; silty clay 2Cg—38 to 60 inches; loam

#### Marna

Extent: 5 to 20 percent of the unit

Geomorphic setting: Moraines and lake plains Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments over till

Floodina: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

nches

Content of organic matter in the upper 10 inches: 6

percent Typical profile:

Ap,A,AB—0 to 20 inches; silty clay loam

Bg—20 to 32 inches; clay

2Bg—32 to 41 inches; clay loam

2Bkg—41 to 60 inches; loam

### Lura

Extent: 5 to 15 percent of the unit Geomorphic setting: Lake plains Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Silty clay

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2

feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot

(March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 9.6

inches

Content of organic matter in the upper 10 inches: 8

percent

Typical profile:

Ap—0 to 10 inches; silty clay A—10 to 58 inches; clay

Bg-58 to 72 inches; silty clay

## L78A—Canisteo clay loam, 0 to 2 percent slopes

## **Component Description**

## Canisteo and similar soils

Extent: 55 to 85 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and rims of

depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

inches

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 18 inches; clay loam Bkg—18 to 39 inches; loam

Cg-39 to 80 inches; loam

## Crippin

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): 1.5 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.9 inches

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,AB—0 to 15 inches; loam Bw—15 to 27 inches; loam C—27 to 60 inches; loam

#### Glencoe

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Till Floodina: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April) Available water capacity to a depth of 60 inches: 11.2

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

Ap—0 to 10 inches; clay loam A,ABg—10 to 35 inches; clay loam

Bg—35 to 48 inches; loam Cg—48 to 60 inches; loam

## Canisteo, depressional

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2

feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 10.7 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 17 inches; silty clay loam Bg—17 to 30 inches; silty clay loam 2Cq—30 to 60 inches; loam

## Harps

Extent: 0 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Rims of depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.6 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Apk,Ak—0 to 13 inches; clay loam

Bk—13 to 30 inches; loam Cg—30 to 60 inches; loam

### Webster

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: More than 60 inches

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

ınches

Content of organic matter in the upper 10 inches: 5.5

percent Typical profile:

> Ap,A—0 to 19 inches; clay loam Bg—19 to 26 inches; clay loam BCg,Cg—26 to 60 inches; loam

## L79B—Clarion loam, 2 to 5 percent slopes

## **Component Description**

## Clarion and similar soils

Extent: 50 to 80 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and summits

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: More than 60 inches

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (January, February, July, August,

September, October, December)

Ponding: None

Available water capacity to a depth of 60 inches: 10.9

inches

Content of organic matter in the upper 10 inches: 4.5

percent Typical profile:

> Ap,A—0 to 14 inches; loam Bw—14 to 33 inches; loam Bk—33 to 60 inches; loam

## Clarion, eroded

Extent: 10 to 40 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Shoulders

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 5 feet (January, February, July, August,

September, October, December)

Ponding: None

Available water capacity to a depth of 60 inches: 10.9

inches

Content of organic matter in the upper 10 inches: 2.5

percent Typical profile:

> Ap—0 to 10 inches; loam Bw—10 to 38 inches; loam Bk—38 to 60 inches: loam

### Nicollet

Extent: 0 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 17 inches; clay loam

Bw,Bg1,Bg2—17 to 33 inches; clay loam

Bg3—33 to 36 inches; clay loam

Cg-36 to 60 inches; loam

## Webster

Extent: 0 to 5 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

inches

Content of organic matter in the upper 10 inches: 5.5

percent Typical profile:

Ap,A—0 to 19 inches; clay loam Bg—19 to 26 inches; clay loam

BCg,Cg-26 to 60 inches; loam

## L80C2—Lester loam, 6 to 12 percent slopes, eroded

## **Component Description**

## Lester, eroded, and similar soils

Extent: 65 to 90 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and shoulders

Slope range: 6 to 12 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 1.6

percent Typical profile:

> Ap—0 to 7 inches; loam Bt—7 to 38 inches; clay loam

Bk—38 to 60 inches; loam C—60 to 80 inches; loam

### Terril

Extent: 5 to 15 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 4 to 6 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4

inches

Content of organic matter in the upper 10 inches: 4

percent
Typical profile:

Ap,A1—0 to 27 inches; loam

A2,BA-27 to 40 inches; loam

Bw-40 to 63 inches; loam

C-63 to 80 inches: loam

### Hamel

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 4 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.6

Content of organic matter in the upper 10 inches: 6

percent

Typical profile:

Ap,A,AB-0 to 24 inches; loam

Btg—24 to 46 inches; clay loam Cg—46 to 80 inches; loam

## Reedslake

Extent: 0 to 10 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Summits and backslopes

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months): More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 10.6

inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap—0 to 12 inches; loam Bt—12 to 26 inches; clay loam Bk—26 to 48 inches; loam C—48 to 80 inches; loam

## Storden, eroded

Extent: 0 to 15 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and backslopes

Slope range: 6 to 12 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 1.2

percent
Typical profile:

Ap—0 to 7 inches; loam Bk—7 to 55 inches; loam C—55 to 80 inches; loam

## L80D2—Lester loam, 12 to 18 percent slopes, eroded

## **Component Description**

## Lester, eroded, and similar soils

Extent: 60 to 80 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and shoulders

Slope range: 12 to 18 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 1.6

percent Typical profile:

> Ap—0 to 7 inches; loam Bt—7 to 38 inches; clay loam Bk—38 to 60 inches; loam C—60 to 80 inches; loam

## Ridgeton

Extent: 5 to 15 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 9 to 14 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained Parent material: Colluvium over till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 11.2

inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A1—0 to 23 inches; loam A2,AB—23 to 38 inches; loam Bw—38 to 50 inches; loam C—50 to 80 inches; loam

## Storden, eroded

Extent: 0 to 15 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and backslopes

Slope range: 12 to 18 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 1.2

percent Typical profile:

Ap—0 to 7 inches; loam Bk—7 to 55 inches; loam C—55 to 80 inches; loam

### Terril

Extent: 2 to 10 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 4 to 6 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 6.6 feet (February, August)

More than 6.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4

0--4--4

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A1—0 to 27 inches; loam A2,BA—27 to 40 inches; loam Bw—40 to 63 inches; loam C—63 to 80 inches: loam

### Hamel

Extent: 1 to 4 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 4 percent

Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.6

inches

Content of organic matter in the upper 10 inches: 6

percent
Typical profile:

Ap,A,AB—0 to 24 inches; loam

Btg—24 to 46 inches; clay loam

Cg-46 to 80 inches; loam

## L81A—Cordova clay loam, 0 to 2 percent slopes

## **Component Description**

## Cordova and similar soils

Extent: 75 to 90 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

inches

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 18 inches; clay loam Btg—18 to 38 inches; clay loam

Cg-38 to 80 inches; loam

## Le Sueur

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): 1.5 feet (April)

Wet soil moisture status is lowest (depth, months): 5.9 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 5 percent

Typical profile:

Ap,AB—0 to 17 inches; clay loam Bt—17 to 37 inches; clay loam Bk—37 to 46 inches; loam C—46 to 80 inches; loam

## Rolfe

Extent: 0 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Silt loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Glaciolacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2

feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 10.3 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A—0 to 12 inches; silt loam E—12 to 20 inches; silt loam Btg—20 to 35 inches; silty clay 2Bt—35 to 51 inches; clay loam 2Cg—51 to 60 inches; loam

## L82A—Marna silty clay loam, 0 to 2 percent slopes

## **Component Description**

### Marna and similar soils

Extent: 70 to 90 percent of the unit

Geomorphic setting: Moraines and lake plains Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 20 inches; silty clay loam

Bg—20 to 32 inches; clay 2Bg—32 to 41 inches; clay loam 2Bkg—41 to 60 inches; loam

#### Barbert

Extent: 0 to 15 percent of the unit Geomorphic setting: Lake plains Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Silt loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)
Available water capacity to a depth of 60 inches: 10.9 inches

Content of organic matter in the upper 10 inches: 3.7 percent

Typical profile:

Ap—0 to 7 inches; silt loam E-7 to 17 inches; silt loam Btg—17 to 43 inches; clay

C-43 to 60 inches; silty clay loam

### Guckeen

Extent: 0 to 10 percent of the unit

Geomorphic setting: Moraines and lake plains Position on the landform: Flats and slight rises

Slope range: 0 to 3 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): 2.5 feet (April, May)

Wet soil moisture status is lowest (depth, months): 5.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.1 inches

Content of organic matter in the upper 10 inches: 5 percent

Typical profile:

Ap,A—0 to 15 inches; silty clay loam Bw—15 to 24 inches; silty clay loam 2Bw-24 to 30 inches; clay loam 2Cg-30 to 60 inches; loam

## L83A—Webster clay loam, 0 to 2 percent slopes

## Component Description

## Webster and similar soils

Extent: 50 to 85 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Floodina: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 19 inches; clay loam Bg—19 to 26 inches; clay loam BCg,Cg—26 to 60 inches; loam

#### Glencoe

Extent: 0 to 20 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Till Floodina: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April) Available water capacity to a depth of 60 inches: 11.2

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

Ap-0 to 10 inches; clay loam A,ABg—10 to 35 inches; clay loam

Bg-35 to 48 inches; loam Cg-48 to 60 inches; loam

#### Canisteo

Extent: 0 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and rims of

depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.3

inches

Content of organic matter in the upper 10 inches: 5.5

percent Typical profile:

> Ap,A—0 to 18 inches; clay loam Bkg—18 to 39 inches; loam Cg—39 to 80 inches; loam

### **Nicollet**

Extent: 0 to 20 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

inches

Content of organic matter in the upper 10 inches: 6

percent Typical profile:

Ap, A-0 to 17 inches; clay loam

Bw,Bg1,Bg2—17 to 33 inches; clay loam

Bg3—33 to 36 inches; clay loam

Cg-36 to 60 inches; loam

## L84A—Glencoe clay loam, depressional, 0 to 1 percent slopes

## **Component Description**

## Glencoe and similar soils

Extent: 75 to 100 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)
Available water capacity to a depth of 60 inches: 11.2
inches

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

Ap—0 to 10 inches; clay loam A,ABg—10 to 35 inches; clay loam

Bg—35 to 48 inches; loam Cg—48 to 60 inches; loam

## Very poorly drained muck

Classification: Fine-loamy, mixed, superactive, mesic

Histic Endoaquolls

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Organic material over till

Floodina: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 13.6
inches

Content of organic matter in the upper 10 inches: 42.5 percent

Typical profile:

Op,Oa—0 to 12 inches; muck A—12 to 29 inches; clay loam Cq—29 to 60 inches; loam

## Canisteo

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and rims of

depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7 inches

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 18 inches; clay loam Bkg—18 to 39 inches; loam Cq—39 to 80 inches; loam

## Harps

Extent: 0 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Rims of depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Pondina: None

Available water capacity to a depth of 60 inches: 10.6

inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Apk,Ak—0 to 13 inches; clay loam

Bk—13 to 30 inches; loam Cg—30 to 60 inches; loam

## L85A—Nicollet clay loam, 1 to 3 percent slopes

## Component Description

## Nicollet and similar soils

Extent: 70 to 95 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 17 inches; clay loam

Bw,Bg1,Bg2—17 to 33 inches; clay loam

Bg3—33 to 36 inches; clay loam Cg—36 to 60 inches; loam

## Clarion

Extent: 5 to 15 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and summits

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (January, February, July, August,
September, October, December)

Ponding: None

Available water capacity to a depth of 60 inches: 10.9 inches

Content of organic matter in the upper 10 inches: 4.5 percent

Typical profile:

Ap,A—0 to 14 inches; loam Bw—14 to 33 inches; loam Bk—33 to 60 inches; loam

## Webster

Extent: 2 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7 inches

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 19 inches; clay loam Bg—19 to 26 inches; clay loam BCg,Cg—26 to 60 inches; loam

## L86A—Madelia silty clay loam, 0 to 2 percent slopes

## Component Description

## Madelia and similar soils

Extent: 80 to 95 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments

Floodina: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.7

nches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 19 inches; silty clay loam Bg—19 to 37 inches; silty clay loam Cg—37 to 60 inches; silt loam

## Okoboji

Extent: 0 to 10 percent of the unit

Geomorphic setting: Moraines and lake plains

Slope range: 0 to 1 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)
Available water capacity to a depth of 60 inches: 12.1 inches

Content of organic matter in the upper 10 inches: 7.7 percent

Typical profile:

Ap,A—0 to 26 inches; silty clay loam Bg—26 to 42 inches; silty clay Cg—42 to 60 inches; silty clay loam

## **Spicer**

Extent: 0 to 10 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Rims of depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.7

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 16 inches; silty clay loam Bg,BCg—16 to 40 inches; silt loam Cq—40 to 60 inches; silt loam

## Kingston

Extent: 0 to 5 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Somewhat poorly drained Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months): 1.5 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.3 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 16 inches; silty clay loam Bw—16 to 25 inches; silty clay loam C—25 to 60 inches; silt loam

## L87A—Kingston silty clay loam, 1 to 3 percent slopes

## **Component Description**

## Kingston and similar soils

Extent: 70 to 90 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months): 1.5 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.3 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 16 inches; silty clay loam Bw—16 to 25 inches; silty clay loam C—25 to 60 inches; silt loam

## Truman

Extent: 5 to 15 percent of the unit Geomorphic setting: Hills on lake plains

Position on the landform: Backslopes and summits

Slope range: 2 to 6 percent

Texture of the surface layer: Silt loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months): 3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (January, February, July, August,
September, October, December)

Ponding: None

Available water capacity to a depth of 60 inches: 12 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,AB—0 to 14 inches; silt loam Bw,BC—14 to 36 inches; silt loam C—36 to 60 inches; silt loam

### Madelia

Extent: 0 to 10 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Poorly drained Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Pondina: None

Available water capacity to a depth of 60 inches: 11.7 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 19 inches; silty clay loam Bg—19 to 37 inches; silty clay loam Cg—37 to 60 inches; silt loam

## L88A—Lura silty clay, depressional, 0 to 1 percent slopes

## Component Description

### Lura and similar soils

Extent: 75 to 95 percent of the unit Geomorphic setting: Lake plains
Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Silty clay

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 9.6 inches

Content of organic matter in the upper 10 inches: 8 percent

Typical profile:

Ap—0 to 10 inches; silty clay A—10 to 58 inches; clay Bg—58 to 72 inches; silty clay

### **Brownton**

Extent: 0 to 15 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Rims of depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 22 inches; silty clay loam

Bg—22 to 38 inches; silty clay 2Cg—38 to 60 inches; loam

## Organic soil

Classification: Fine, smectitic, mesic Histic Epiaquolls

Extent: 0 to 10 percent of the unit Geomorphic setting: Lake plains Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Muck Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material: Organic material over lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 14.2 inches

Content of organic matter in the upper 10 inches: 42.5 percent

Typical profile:

Op—0 to 10 inches; muck

2A1—10 to 26 inches; mucky silty clay loam

2A2—26 to 48 inches; silty clay loam 2Cg—48 to 80 inches; silty clay

## L89A—Guckeen silty clay loam, 0 to 3 percent slopes

## Component Description

## Guckeen and similar soils

Extent: 70 to 90 percent of the unit

Geomorphic setting: Moraines and lake plains Position on the landform: Flats and slight rises

Slope range: 0 to 3 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Somewhat poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): 1.5 feet (April, May)

Wet soil moisture status is lowest (depth, months): 4.9 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.1 inches

Content of organic matter in the upper 10 inches: 5 percent

Typical profile:

Ap,A—0 to 15 inches; silty clay loam Bw—15 to 24 inches; silty clay loam

2Bw—24 to 30 inches; clay loam 2Cg—30 to 60 inches; loam

## Marna

Extent: 0 to 15 percent of the unit

Geomorphic setting: Lake plains and moraines Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 6

percent Typical profile:

Ap,A,AB—0 to 20 inches; silty clay loam

Bg—20 to 32 inches; clay 2Bg—32 to 41 inches; clay loam 2Bkg—41 to 60 inches; loam

## Clarion clay loam

Extent: 0 to 15 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and summits

Slope range: 2 to 5 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Lacustrine sediment over till

Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (January, February, July, August,

September, October, December)

Ponding: None

Available water capacity to a depth of 60 inches: 10.9

inches

Content of organic matter in the upper 10 inches: 4.5

percent

Typical profile:

Ap,A-0 to 13 inches; clay loam

Bw—13 to 37 inches; clay loam C—37 to 80 inches; loam

## L90A—Le Sueur clay loam, 0 to 3 percent slopes

## Component Description

### Le Sueur and similar soils

Extent: 70 to 85 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 0 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet (April)

Wet soil moisture status is lowest (depth, months): 5.9

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 5

percent

Typical profile:

Ap,AB—0 to 17 inches; clay loam Bt—17 to 37 inches; clay loam Bk—37 to 46 inches; loam

C—46 to 80 inches; loam

## Cordova

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

inches

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 18 inches; clay loam Btg—18 to 38 inches; clay loam Cg—38 to 80 inches; loam

### Reedslake

Extent: 5 to 15 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Summits and backslopes

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months): More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 10.6

inches

Content of organic matter in the upper 10 inches: 4

percent

Typical profile:

Ap—0 to 12 inches; loam Bt—12 to 26 inches; clay loam Bk—26 to 48 inches; loam C—48 to 80 inches; loam

## L91A—Mazaska silty clay loam, 0 to 2 percent slopes

## Component Description

### Mazaska and similar soils

Extent: 75 to 95 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Glaciofluvial sediments and reworked

till over till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 9.5

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 15 inches; silty clay loam

Btg—15 to 42 inches; clay

Bkg—42 to 80 inches; loam

#### Lerdal

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Glaciofluvial sediments and reworked

till over till Flooding: None

Wet soil moisture status is highest (depth, months):

1.6 feet (November)

Wet soil moisture status is lowest (depth, months): 4.9

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.2

inches

Content of organic matter in the upper 10 inches: 2.6 percent

Typical profile:

Ap—0 to 8 inches; clay loam E—8 to 12 inches; clay loam

Bt,Btg—12 to 41 inches; silty clay loam

Bk-41 to 80 inches; loam

### Rolfe

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Silt loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Glaciolacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2

feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)
Available water capacity to a depth of 60 inches: 10.3 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A—0 to 12 inches; silt loam E—12 to 20 inches; silt loam Btg—20 to 35 inches; silty clay 2Bt—35 to 51 inches; clay loam 2Cg—51 to 60 inches; loam

## L92A—Darfur loam, 0 to 2 percent slopes

## **Component Description**

### Darfur and similar soils

Extent: 70 to 90 percent of the unit Geomorphic setting: Outwash plains Position on the landform: Flats Slope range: 0 to 2 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Outwash

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 2 feet (August)

Ponding: None

Available water capacity to a depth of 60 inches: 8.5 inches

Content of organic matter in the upper 10 inches: 6.3 percent

Typical profile:

Ap—0 to 9 inches; loam A,AB—9 to 19 inches; loam

Bg—19 to 31 inches; fine sandy loam

Cg—31 to 60 inches; stratified fine sand to loamy fine sand to fine sandy loam

### **Fieldon**

Extent: 5 to 15 percent of the unit Geomorphic setting: Outwash plains Position on the landform: Flats Slope range: 0 to 2 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Outwash

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (April)

Wet soil moisture status is lowest (depth, months): 2 feet (August)

Ponding: None

Available water capacity to a depth of 60 inches: 7.9 inches

Content of organic matter in the upper 10 inches: 6.5 percent

Typical profile:

Ap,A,AB—0 to 19 inches; loam
Bg,Bw—19 to 37 inches; fine sandy loam
C,Cg—37 to 60 inches; stratified fine sand to
loamy fine sand

## Litchfield

Extent: 0 to 10 percent of the unit Geomorphic setting: Outwash plains

Position on the landform: Flats and slight rises

Slope range: 0 to 3 percent

Texture of the surface layer: Loamy fine sand

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Outwash

Flooding: None

Wet soil moisture status is highest (depth, months): 1.3 feet (April)

Wet soil moisture status is lowest (depth, months): 3 feet (August)

Ponding: None

Available water capacity to a depth of 60 inches: 7.2 inches

Content of organic matter in the upper 10 inches: 2 percent

Typical profile:

Ap,A,AB—0 to 20 inches; loamy fine sand

Bw-20 to 33 inches; fine sand

BC—33 to 40 inches; very fine sandy loam C—40 to 80 inches; loamy fine sand

## Webster

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 19 inches; clay loam Bg—19 to 26 inches; clay loam BCg,Cg—26 to 60 inches; loam

### Dassel

Extent: 0 to 5 percent of the unit Geomorphic setting: Outwash plains Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Mucky fine sandy loam Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material: Outwash

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 1.8 feet (August)

Ponding does not occur (months): January, February, May, June, July, August, September, October, November, December

Ponding is deepest (depth, months): 1 foot (April) Available water capacity to a depth of 60 inches: 8.6 inches

Content of organic matter in the upper 10 inches: 8.9 percent

Typical profile:

Ap—0 to 6 inches; mucky fine sandy loam

A—6 to 23 inches; fine sandy loam

Bg-23 to 31 inches; loamy very fine sand

Cg—31 to 60 inches; fine sand

## L93A—Muskego muck, depressional, 0 to 1 percent slopes

## Component Description

## Muskego and similar soils

Extent: 70 to 90 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Organic material/coprogenous earth over till

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 15.6 inches

Content of organic matter in the upper 10 inches: 75 percent

Typical profile:

Op,Oa—0 to 16 inches; muck

Lco—16 to 76 inches; coprogenous earth

Cg-76 to 80 inches; loam

### Blue Earth

Extent: 0 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Mucky silty clay loam
Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material: Coprogenous earth over till

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)
Available water capacity to a depth of 60 inches: 12.6 inches

Content of organic matter in the upper 10 inches: 17.5 percent

Typical profile:

Ap—0 to 10 inches; mucky silty clay loam Cg—10 to 68 inches; mucky silty clay loam 2Cg—68 to 80 inches; loam

## Mineral soil, drained

Classification: Loamy, mixed, superactive, mesic Cumulic Endoaquolls

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions

Slope range: 0 to 1 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Till Floodina: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April) Available water capacity to a depth of 60 inches: 11.1

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

Ap-0 to 13 inches; loam

A,Bg1—13 to 31 inches; clay loam Bg2—31 to 45 inches; clay loam Cg-45 to 80 inches; loam

## Belleville

Extent: 0 to 5 percent of the unit

Geomorphic setting: Beaches on moraines

Position on the landform: Flats Slope range: 0 to 2 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Glaciolacustrine sediments over till

Floodina: None

Wet soil moisture status is highest (depth, months): At

the surface (April)

Wet soil moisture status is lowest (depth, months): 2 feet (August)

Pondina: None

Available water capacity to a depth of 60 inches: 8.4

Content of organic matter in the upper 10 inches: 4.5 percent

Typical profile:

Ap-0 to 11 inches; sandy loam Bg—11 to 27 inches; loamy sand 2Bg—27 to 48 inches; loam 2Cg-48 to 80 inches; loam

## L94A—Lowlein fine sandy loam, terrace, 0 to 3 percent slopes

## Component Description

### Lowlein and similar soils

Extent: 60 to 85 percent of the unit Geomorphic setting: Stream terraces

Position on the landform: Flats and slight rises

Slope range: 0 to 3 percent

Texture of the surface layer: Fine sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Outwash over lacustrine silty sediments

Flooding: None

Wet soil moisture status is highest (depth, months): 2.5 feet (April)

Wet soil moisture status is lowest (depth, months): 3.9 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 8.5

Content of organic matter in the upper 10 inches: 3 percent

Typical profile:

Ap,A—0 to 18 inches; fine sandy loam Bw1—18 to 27 inches; fine sandy loam

Bw2-27 to 46 inches; stratified loamy sand to fine sandy loam

2Bw-46 to 72 inches: silt loam 2C-72 to 80 inches; silt loam

## Linder

Extent: 10 to 25 percent of the unit Geomorphic setting: Stream terraces

Position on the landform: Flats and slight rises

Slope range: 0 to 2 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

Drainage class: Somewhat poorly drained

Parent material: Outwash

Flooding: None

Wet soil moisture status is highest (depth, months):

1.3 feet (April)

Wet soil moisture status is lowest (depth, months): 3 feet (August)

Ponding: None

Available water capacity to a depth of 60 inches: 6.3 inches

Content of organic matter in the upper 10 inches: 3.5 percent

Typical profile:

Ap, AB—0 to 15 inches; loam

Bw,BC—15 to 29 inches; sandy loam

2C—29 to 60 inches; stratified gravelly coarse sand to coarse sand to loamy coarse sand

### Dickinson

Extent: 5 to 10 percent of the unit

Geomorphic setting: Hills on stream terraces Position on the landform: Backslopes and summits

Slope range: 1 to 6 percent

Texture of the surface layer: Fine sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained Parent material: Outwash

Flooding: None

Depth to wet soil moisture status: More than 5 feet all

year

Ponding: None

Available water capacity to a depth of 60 inches: 6.1

Content of organic matter in the upper 10 inches: 1.5 percent

Typical profile:

Ap, A—0 to 14 inches; fine sandy loam Bw—14 to 39 inches; fine sandy loam C—39 to 60 inches; loamy fine sand

#### Darfur

Extent: 0 to 5 percent of the unit Geomorphic setting: Stream terraces

Position on the landform: Flats Slope range: 0 to 2 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Outwash

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (April)

Wet soil moisture status is lowest (depth, months): 2

feet (August) Ponding: None

Available water capacity to a depth of 60 inches: 8.5

Content of organic matter in the upper 10 inches: 6.3 percent

Typical profile:

Ap—0 to 9 inches; loam A,AB—9 to 19 inches; loam Bg—19 to 31 inches; fine sandy loam

Cg-31 to 60 inches; stratified fine sand to loamy fine sand to fine sandy loam

## L95E—Hawick gravelly coarse sandy loam, 12 to 25 percent slopes

## Component Description

### Hawick and similar soils

Extent: 70 to 90 percent of the unit

Geomorphic setting: Hills on stream terraces; hills on

outwash plains

Position on the landform: Summits, shoulders, and

backslopes

Slope range: 12 to 25 percent

Texture of the surface layer: Gravelly coarse sandy

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Excessively drained

Parent material: Outwash

Flooding: None

Depth to wet soil moisture status: More than 5 feet all year

Pondina: None

Available water capacity to a depth of 60 inches: 2.8

Content of organic matter in the upper 10 inches: 1.5 percent

Typical profile:

Ap—0 to 7 inches; gravelly coarse sandy loam AC—7 to 10 inches; gravelly loamy coarse sand C-10 to 60 inches; gravelly coarse sand

## **Estherville**

Extent: 5 to 15 percent of the unit

Geomorphic setting: Hills on stream terraces; hills on outwash plains

Position on the landform: Backslopes and summits

Slope range: 12 to 18 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60

Drainage class: Somewhat excessively drained

Parent material: Outwash

Flooding: None

Depth to wet soil moisture status: More than 5 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 3.5

Content of organic matter in the upper 10 inches: 1.7 percent

Typical profile:

Ap—0 to 8 inches; sandy loam Bw—8 to 13 inches; sandy loam

2C-13 to 60 inches; gravelly coarse sand

#### **Tomall**

Extent: 5 to 15 percent of the unit

Geomorphic setting: Stream terraces and outwash

plains

Position on the landform: Swales Slope range: 0 to 2 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Colluvium over outwash

Flooding: None

Wet soil moisture status is highest (depth, months): 4

feet (April, May)

Wet soil moisture status is lowest (depth, months): More than 6.7 feet (January, February, March, July, August, September, October, November,

December)

Ponding: None Available water capacity to a depth of 60 inches: 9.5

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 33 inches; loam Bw-33 to 42 inches; sandy loam

2Bw-42 to 47 inches; loamy coarse sand

2C-47 to 80 inches; gravelly loamy coarse sand

## L96B—Estherville-Hawick complex, 2 to 6 percent slopes

## Component Description

## Estherville and similar soils

Extent: 40 to 65 percent of the unit

Geomorphic setting: Hills on outwash plains; hills on terraces

Position on the landform: Backslopes and summits

Slope range: 2 to 6 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60

Drainage class: Somewhat excessively drained

Parent material: Outwash

Flooding: None

Depth to wet soil moisture status: More than 5 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 4.1

Content of organic matter in the upper 10 inches: 3 percent

Typical profile:

Ap,A—0 to 13 inches; sandy loam Bw1—13 to 18 inches; sandy loam

2Bw2—18 to 23 inches; loamy coarse sand 2C—23 to 60 inches; gravelly coarse sand

## Hawick and similar soils

Extent: 25 to 40 percent of the unit

Geomorphic setting: Hills on outwash plains; hills on stream terraces

Position on the landform: Summits, backslopes, and shoulders

Slope range: 2 to 6 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60

Drainage class: Excessively drained

Parent material: Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all vear Ponding: None

Available water capacity to a depth of 60 inches: 2.7

Content of organic matter in the upper 10 inches: 1.5 percent

Typical profile:

Ap—0 to 7 inches; sandy loam

Bw,C-7 to 80 inches; gravelly coarse sand

## Tomall

Extent: 5 to 15 percent of the unit

Geomorphic setting: Outwash plains and stream

terraces

Position on the landform: Swales Slope range: 0 to 2 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Colluvium over outwash

Flooding: None

Wet soil moisture status is highest (depth, months): 4 feet (April, May)

Wet soil moisture status is lowest (depth, months): More than 6.7 feet (January, February, March, July, August, September, October, November, December)

Ponding: None

Available water capacity to a depth of 60 inches: 9.5 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 33 inches; loam Bw-33 to 42 inches; sandy loam

2Bw-42 to 47 inches; loamy coarse sand

2C-47 to 80 inches; gravelly loamy coarse sand

## **Biscay**

Extent: 0 to 5 percent of the unit Geomorphic setting: Outwash plains Position on the landform: Flats and swales

Slope range: 0 to 2 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Outwash

Floodina: None

Wet soil moisture status is highest (depth, months): At the surface (April)

Wet soil moisture status is lowest (depth, months): 2 feet (August)

Ponding: None

Available water capacity to a depth of 60 inches: 7.5

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap, A-0 to 20 inches; loam Bg—20 to 28 inches; loam

2BCg-28 to 36 inches; gravelly loam

2Cg-36 to 60 inches; gravelly coarse sand

## L97C—Hawick-Estherville complex, 6 to 12 percent slopes

## Component Description

## Hawick and similar soils

Extent: 45 to 70 percent of the unit

Geomorphic setting: Hills on stream terraces; hills on outwash plains

Position on the landform: Shoulders, backslopes, and summits

Slope range: 6 to 12 percent

Texture of the surface layer: Gravelly sandy loam Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Excessively drained

Parent material: Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 2.7

Content of organic matter in the upper 10 inches: 1.5 percent

Typical profile:

Ap—0 to 7 inches; gravelly sandy loam Bw,C-7 to 80 inches; gravelly coarse sand

### Estherville and similar soils

Extent: 25 to 40 percent of the unit

Geomorphic setting: Hills on stream terraces; hills on outwash plains

Position on the landform: Summits and backslopes

Slope range: 6 to 12 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat excessively drained

Parent material: Outwash

Flooding: None

Depth to wet soil moisture status: More than 5 feet all

year

Ponding: None

Available water capacity to a depth of 60 inches: 4.1

Content of organic matter in the upper 10 inches: 3 percent

Typical profile:

Ap,A—0 to 13 inches; sandy loam Bw1—13 to 18 inches; sandy loam

2Bw2—18 to 23 inches; loamy coarse sand 2C-23 to 60 inches; gravelly coarse sand

### Tomall

Extent: 5 to 15 percent of the unit

Geomorphic setting: Outwash plains and stream

terraces

Position on the landform: Swales Slope range: 0 to 3 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Colluvium over outwash

Floodina: None

Wet soil moisture status is highest (depth, months): 4 feet (April, May)

Wet soil moisture status is lowest (depth, months): More than 6.7 feet (January, February, March, July, August, September, October, November, December)

Ponding: None

Available water capacity to a depth of 60 inches: 9.5 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 33 inches; loam Bw—33 to 42 inches; sandy loam

2Bw-42 to 47 inches; loamy coarse sand

2C-47 to 80 inches; gravelly loamy coarse sand

## L98A—Crippin-Nicollet complex, 1 to 3 percent slopes

## Component Description

## Crippin and similar soils

Extent: 40 to 60 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.9

inches

Content of organic matter in the upper 10 inches: 5.5

percent Typical profile:

Ap,AB—0 to 15 inches; loam

Bw-15 to 27 inches; loam

C-27 to 60 inches; loam

## Nicollet and similar soils

Extent: 30 to 45 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

inches

Content of organic matter in the upper 10 inches: 6

percent
Typical profile:

Ap,A—0 to 17 inches; clay loam

Bw,Bg1,Bg2—17 to 33 inches; clay loam

Bg3—33 to 36 inches; clay loam

Cg-36 to 60 inches; loam

### Canisteo

Extent: 0 to 10 percent of the unit

Geomorphic setting: Moraines

Position on the landform: Flats

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

nches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

inches

Content of organic matter in the upper 10 inches: 5.5

percent

Typical profile:

Ap,A—0 to 18 inches; clay loam

Bkg-18 to 39 inches; loam

Cg—39 to 80 inches; loam

#### Clarion

Extent: 0 to 10 percent of the unit

Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and summits

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (January, February, July, August,

September, October, December)

Ponding: None

Available water capacity to a depth of 60 inches: 10.9

inches

Content of organic matter in the upper 10 inches: 4.5 percent

Typical profile:

Ap,A—0 to 14 inches; loam Bw—14 to 33 inches; loam Bk—33 to 60 inches; loam

## L99B—Clarion-Swanlake complex, 2 to 6 percent slopes

## **Component Description**

#### Clarion and similar soils

Extent: 50 to 70 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and summits

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (January, February, July, August,

September, October, December)

Ponding: None

Available water capacity to a depth of 60 inches: 10.9

inches

Content of organic matter in the upper 10 inches: 4.5 percent

Typical profile:

Ap,A—0 to 14 inches; loam Bw—14 to 33 inches; loam Bk—33 to 60 inches; loam

## Swanlake and similar soils

Extent: 15 to 30 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Shoulders

Slope range: 3 to 6 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (January, February, July, August, September, October, December)

Ponding: None

Available water capacity to a depth of 60 inches: 10.6

inches

Content of organic matter in the upper 10 inches: 2.8

percent Typical profile:

> Ap—0 to 9 inches; loam Bk—9 to 43 inches; loam C—43 to 60 inches; loam

## **Nicollet**

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

inches

Content of organic matter in the upper 10 inches: 6

percent

Typical profile:

Ap,A-0 to 17 inches; clay loam

Bw,Bg1,Bg2—17 to 33 inches; clay loam

Bg3—33 to 36 inches; clay loam

Cg—36 to 60 inches; loam

### Webster

Extent: 0 to 5 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap, A-0 to 19 inches; clay loam Bg—19 to 26 inches; clay loam BCg,Cg-26 to 60 inches; loam

## L100B—Clarion-Estherville complex, 2 to 6 percent slopes

## Component Description

#### Clarion and similar soils

Extent: 40 to 50 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and summits

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Floodina: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months): More than 5 feet (January, February, July, August,

September, October, December)

Pondina: None

Available water capacity to a depth of 60 inches: 10.9

Content of organic matter in the upper 10 inches: 4.5

percent Typical profile:

> Ap, A-0 to 14 inches; loam Bw-14 to 33 inches: loam Bk-33 to 60 inches; loam

## Estherville and similar soils

Extent: 30 to 50 percent of the unit Geomorphic setting: Hills on moraines

Slope range: 2 to 6 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60

Drainage class: Somewhat excessively drained

Parent material: Outwash

Flooding: None

Depth to wet soil moisture status: More than 5 feet all

Ponding: None

Available water capacity to a depth of 60 inches: 4.1

Content of organic matter in the upper 10 inches: 3 percent

Typical profile:

Ap,A—0 to 13 inches; sandy loam Bw1—13 to 18 inches; sandy loam

2Bw2—18 to 23 inches; loamy coarse sand 2C-23 to 60 inches; gravelly coarse sand

#### Lowlein

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and rises

Slope range: 0 to 2 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained

Parent material: Outwash over till

Floodina: None

Wet soil moisture status is highest (depth, months):

2.5 feet (April)

Wet soil moisture status is lowest (depth, months): 3.9

feet (February, August)

Pondina: None

Available water capacity to a depth of 60 inches: 8.8

Content of organic matter in the upper 10 inches: 3.5

percent Typical profile:

> Ap, A—0 to 14 inches; sandy loam Bw1—14 to 24 inches; sandy loam

Bw2-24 to 31 inches; loamy sand

2C-31 to 60 inches; loam

### Nicollet

Extent: 5 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Floodina: None

Wet soil moisture status is highest (depth, months):

1.5 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap, A-0 to 17 inches; clay loam

Bw,Bg1,Bg2—17 to 33 inches; clay loam

Bg3—33 to 36 inches; clay loam Cg—36 to 60 inches; loam

### **Swanlake**

Extent: 5 to 10 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Shoulders

Slope range: 3 to 6 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (January, February, July, August,

September, October, December)

Ponding: None

Available water capacity to a depth of 60 inches: 10.6

inches

Content of organic matter in the upper 10 inches: 2.8 percent

Typical profile:

Ap—0 to 9 inches; loam Bk—9 to 43 inches; loam C—43 to 60 inches; loam

## Webster

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

inches

Content of organic matter in the upper 10 inches: 5.5

percent

Typical profile:

Ap,A—0 to 19 inches; clay loam Bg—19 to 26 inches; clay loam

BCg,Cg-26 to 60 inches; clay loam, loam

# L101C2—Omsrud-Hawick-Storden complex, 6 to 12 percent slopes, eroded

## Component Description

## Omsrud, eroded, and similar soils

Extent: 30 to 50 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Backslopes and

shoulders

Slope range: 6 to 12 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

nches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.6

inches

Content of organic matter in the upper 10 inches: 2.9

percent
Typical profile:

Ap—0 to 9 inches; loam Bw—9 to 19 inches; clay loam Bk—19 to 36 inches; loam

C-36 to 80 inches; loam

#### Hawick and similar soils

Extent: 25 to 35 percent of the unit Geomorphic setting: Hills on moraines

Slope range: 6 to 12 percent

Texture of the surface layer: Gravelly sandy loam

Depth to restrictive feature: Very deep (more than 60)

inches)

Drainage class: Excessively drained

Parent material: Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 2.7

nches

Content of organic matter in the upper 10 inches: 1.5 percent

Typical profile:

Ap—0 to 7 inches; gravelly sandy loam Bw,C—7 to 80 inches; gravelly coarse sand

### Storden, eroded, and similar soils

Extent: 15 to 25 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and shoulders

Slope range: 6 to 12 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 1.2

percent
Typical profile:

Ap—0 to 7 inches; loam Bk—7 to 55 inches; loam C—55 to 80 inches; loam

## Delft

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4

inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 37 inches; loam Bg—37 to 50 inches; clay loam Cg—50 to 60 inches; loam

#### Terril

Extent: 5 to 10 percent of the unit

Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 2 to 6 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A1—0 to 27 inches; loam A2,BA—27 to 40 inches; loam Bw—40 to 63 inches; loam C—63 to 80 inches; loam

# L101D2—Omsrud-Hawick-Storden complex, 12 to 18 percent slopes, eroded

## **Component Description**

### Omsrud, eroded, and similar soils

Extent: 30 to 50 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and shoulders

Slope range: 12 to 18 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.6

Content of organic matter in the upper 10 inches: 2.9

percent Typical profile:

> Ap—0 to 9 inches; loam Bw—9 to 19 inches; clay loam Bk—19 to 36 inches; loam C—36 to 80 inches; loam

### Hawick and similar soils

Extent: 25 to 35 percent of the unit Geomorphic setting: Hills on moraines

Slope range: 12 to 18 percent

Texture of the surface layer: Gravelly coarse sandy

loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Excessively drained

Parent material: Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 2.7

inches

Content of organic matter in the upper 10 inches: 1.5

percent
Typical profile:

Ap—0 to 7 inches; gravelly coarse sandy loam Bw,C—7 to 80 inches; gravelly coarse sand

## Storden, eroded, and similar soils

Extent: 15 to 25 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and backslopes

Slope range: 12 to 18 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year *Ponding:* None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 1.2

percent Typical profile:

> Ap—0 to 7 inches; loam Bk—7 to 55 inches; loam C—55 to 80 inches; loam

## Ridgeton

Extent: 2 to 10 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 9 to 14 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained Parent material: Colluvium over till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 11.2

inches

Content of organic matter in the upper 10 inches: 4

percent Typical profile:

> Ap,A1—0 to 23 inches; loam A2,AB—23 to 38 inches; loam Bw—38 to 50 inches; loam C—50 to 80 inches; loam

## Delft

Extent: 2 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Pondina: None

Available water capacity to a depth of 60 inches: 11.4

inches

Content of organic matter in the upper 10 inches: 6

percent Typical profile:

> Ap,A—0 to 37 inches; loam Bg—37 to 50 inches; clay loam Cg—50 to 60 inches; loam

## **Terril**

Extent: 2 to 5 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 4 to 6 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 6.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A1—0 to 27 inches; loam A2,BA—27 to 40 inches; loam Bw—40 to 63 inches; loam C—63 to 80 inches; loam

## L102C2—Omsrud-Storden complex, 6 to 12 percent slopes, eroded

## **Component Description**

## Omsrud, eroded, and similar soils

Extent: 40 to 70 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and shoulders

Slope range: 6 to 12 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.6

inches

Content of organic matter in the upper 10 inches: 2.9 percent

Typical profile:

Ap—0 to 9 inches; loam Bw—9 to 19 inches; clay loam Bk—19 to 36 inches; loam C—36 to 80 inches; loam

## Storden, eroded, and similar soils

Extent: 20 to 30 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and backslopes

Slope range: 6 to 12 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 1.2 percent

Typical profile:

Ap—0 to 7 inches; loam Bk—7 to 55 inches; loam C—55 to 80 inches; loam

### **Omsrud**

Extent: 10 to 20 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and shoulders

Slope range: 6 to 12 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.7

inches

Content of organic matter in the upper 10 inches: 4

percent
Typical profile:

Ap,A—0 to 12 inches; loam Bw—12 to 16 inches; clay loam Bk—16 to 32 inches; loam

C-32 to 60 inches; loam

### Terril

Extent: 5 to 15 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 2 to 6 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Colluvium over till

Floodina: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months): More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A1—0 to 27 inches; loam A2,BA—27 to 40 inches; loam Bw—40 to 63 inches; loam C—63 to 80 inches; loam

#### Delft

Extent: 2 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4

inches

Content of organic matter in the upper 10 inches: 6

percent Typical profile:

> Ap,A—0 to 37 inches; loam Bg—37 to 50 inches; clay loam Cg—50 to 60 inches; loam

## L102D2—Omsrud-Storden complex, 12 to 18 percent slopes, eroded

### **Component Description**

#### Omsrud, eroded, and similar soils

Extent: 40 to 75 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and backslopes

Slope range: 12 to 18 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year

Ponding: None

Available water capacity to a depth of 60 inches: 10.6

nches

Content of organic matter in the upper 10 inches: 2.9 percent

Typical profile:

Ap—0 to 9 inches; loam Bw—9 to 19 inches; clay loam Bk—19 to 36 inches; loam C—36 to 80 inches; loam

### Storden, eroded, and similar soils

Extent: 15 to 25 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and backslopes

Slope range: 12 to 18 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 1.2

percent
Typical profile:

Ap—0 to 7 inches; loam Bk—7 to 55 inches; loam C—55 to 80 inches; loam

#### **Omsrud**

Extent: 10 to 25 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and shoulders

Slope range: 12 to 18 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A—0 to 12 inches; loam

Bw—12 to 16 inches; clay loam Bk—16 to 32 inches; loam C—32 to 60 inches; loam

### Ridgeton

Extent: 5 to 10 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 9 to 14 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained Parent material: Colluvium over till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 11.2

inches

Content of organic matter in the upper 10 inches: 4

percent
Typical profile:

Ap,A1—0 to 23 inches; loam A2,AB—23 to 38 inches; loam Bw—38 to 50 inches; loam C—50 to 80 inches; loam

#### Delft

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4

inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 37 inches; loam Bg—37 to 50 inches; clay loam Cg—50 to 60 inches; loam

#### Terril

Extent: 2 to 8 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 4 to 6 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 6.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A1—0 to 27 inches; loam A2,BA—27 to 40 inches; loam Bw—40 to 63 inches; loam C—63 to 80 inches; loam

## L103A—Fieldon-Canisteo complex, 0 to 2 percent slopes

### Component Description

#### Fieldon and similar soils

Extent: 45 to 55 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats with deltaic sediments

Slope range: 0 to 2 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Deltaic sediments

Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (April)

Wet soil moisture status is lowest (depth, months): 2 feet (August)

Ponding: None

Available water capacity to a depth of 60 inches: 7.9 inches

Content of organic matter in the upper 10 inches: 6.5 percent

Typical profile:

Ap,A,AB—0 to 19 inches; loam

Bg,Bw—19 to 37 inches; fine sandy loam C,Cg—37 to 60 inches; stratified fine sand to

loamy fine sand

#### Canisteo and similar soils

Extent: 30 to 40 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and rims of

depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

inches

Content of organic matter in the upper 10 inches: 5.5

percent Typical profile:

Ap,A-0 to 18 inches; clay loam

Bkg—18 to 39 inches; loam

Cg-39 to 80 inches; loam

#### Darfur

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats with deltaic sediments

Slope range: 0 to 2 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Deltiac sediments

Floodina: None

Wet soil moisture status is highest (depth, months): At

the surface (April)

Wet soil moisture status is lowest (depth, months): 2

feet (August) Pondina: None

Available water capacity to a depth of 60 inches: 8.5

Content of organic matter in the upper 10 inches: 6.3

percent Typical profile:

Ap-0 to 9 inches; loam

A.AB-9 to 19 inches: loam

Bg—19 to 31 inches; fine sandy loam

Cg—31 to 60 inches; stratified fine sand to loamy

fine sand to fine sandy loam

#### Glencoe

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2

feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot

(March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 11.2 inches

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

Ap-0 to 10 inches; clay loam

A,ABg—10 to 35 inches; clay loam

Bg—35 to 48 inches; loam

Cg—48 to 60 inches; loam

## L105C2—Lester-Hawick complex, 6 to 12 percent slopes, eroded

### Component Description

#### Lester, eroded, and similar soils

Extent: 30 to 55 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and backslopes

Slope range: 6 to 12 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.6 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 1.6 A2.BA—27 to 40 inches: loam percent Bw-40 to 63 inches; loam Typical profile: C-63 to 80 inches; loam Ap-0 to 7 inches; loam Hamel Bt-7 to 38 inches; clay loam Bk-38 to 60 inches; loam Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines C-60 to 80 inches; loam Position on the landform: Drainageways and Hawick and similar soils swales Extent: 25 to 45 percent of the unit Slope range: 1 to 3 percent Geomorphic setting: Hills on moraines Texture of the surface layer: Loam Position on the landform: Backslopes and summits Depth to restrictive feature: Very deep (more than 60 Slope range: 6 to 12 percent inches) Texture of the surface layer: Gravelly sandy loam Drainage class: Poorly drained Depth to restrictive feature: Very deep (more than 60 Parent material: Colluvium over till Flooding: None inches) Drainage class: Excessively drained Wet soil moisture status is highest (depth, months): Parent material: Outwash 0.5 foot (April) Flooding: None Wet soil moisture status is lowest (depth, months): 3.3 Depth to wet soil moisture status: More than 6.6 feet feet (February, August) all year Ponding: None Available water capacity to a depth of 60 inches: 11.6 Ponding: None Available water capacity to a depth of 60 inches: 2.7 Content of organic matter in the upper 10 inches: 6 Content of organic matter in the upper 10 inches: 1.5 percent Typical profile: percent Ap,A,AB—0 to 24 inches; loam Typical profile: Btg—24 to 46 inches; clay loam Ap—0 to 7 inches; gravelly sandy loam Bw,C-7 to 80 inches; gravelly coarse sand Cg-46 to 80 inches; loam Terril Storden, eroded Extent: 5 to 15 percent of the unit Extent: 0 to 10 percent of the unit Geomorphic setting: Hills on moraines Geomorphic setting: Hills on moraines Position on the landform: Footslopes Position on the landform: Shoulders and Slope range: 2 to 6 percent backslopes Texture of the surface layer: Loam Slope range: 6 to 12 percent Depth to restrictive feature: Very deep (more than 60 Texture of the surface layer: Loam Depth to restrictive feature: Very deep (more than 60 inches) Drainage class: Moderately well drained Parent material: Colluvium over till Drainage class: Well drained Flooding: None Parent material: Till Wet soil moisture status is highest (depth, months): Floodina: None Depth to wet soil moisture status: More than 6.6 feet 3.6 feet (April) Wet soil moisture status is lowest (depth, months): all year More than 6.7 feet (January, February, July, Ponding: None August, September) Available water capacity to a depth of 60 inches: 10.5 Ponding: None Available water capacity to a depth of 60 inches: 11.4 Content of organic matter in the upper 10 inches: 1.2 percent Content of organic matter in the upper 10 inches: 4 Typical profile: percent Ap—0 to 7 inches; loam

Bk-7 to 55 inches; loam

C-55 to 80 inches; loam

Typical profile:

Ap,A1—0 to 27 inches; loam

## L105D2—Lester-Hawick complex, 12 to 18 percent slopes, eroded

## **Component Description**

#### Lester, eroded, and similar soils

Extent: 30 to 55 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and backslopes

Slope range: 12 to 18 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 1.6

percent
Typical profile:

Ap—0 to 7 inches; loam Bt—7 to 38 inches; clay loam Bk—38 to 60 inches; loam C—60 to 80 inches; loam

#### Hawick and similar soils

Extent: 30 to 40 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Summits and backslopes

Slope range: 12 to 18 percent

Texture of the surface layer: Gravelly coarse sandy

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Excessively drained

Parent material: Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 2.7

inches

Content of organic matter in the upper 10 inches: 1.5 percent

Typical profile:

Ap—0 to 7 inches; gravelly coarse sandy loam Bw,C—7 to 80 inches; gravelly coarse sand

#### Ridgeton

Extent: 5 to 15 percent of the unit

Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 9 to 14 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained Parent material: Colluvium over till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 11.2

nches

Content of organic matter in the upper 10 inches: 4

percent
Typical profile:

Ap,A1—0 to 23 inches; loam A2,AB—23 to 38 inches; loam Bw—38 to 50 inches; loam C—50 to 80 inches; loam

#### Hamel

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.6

inches

Content of organic matter in the upper 10 inches: 6

percent

Typical profile:

Ap,A,AB—0 to 24 inches; loam Btg—24 to 46 inches; clay loam Cg—46 to 80 inches; loam

#### Storden, eroded

Extent: 0 to 10 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and backslopes

Slope range: 12 to 18 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Well drained

Parent material: Till Floodina: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 1.2 percent

Typical profile:

Ap-0 to 7 inches; loam Bk-7 to 55 inches: loam C-55 to 80 inches: loam

#### Terril

Extent: 2 to 5 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 4 to 6 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months): 2.5 feet (April)

Wet soil moisture status is lowest (depth, months): More than 6.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A1—0 to 27 inches; loam A2,BA-27 to 40 inches; loam Bw-40 to 63 inches; loam C-63 to 80 inches; loam

## L106C2—Lester-Storden complex, 6 to 12 percent slopes, eroded

#### Component Description

#### Lester, eroded, and similar soils

Extent: 50 to 70 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and shoulders

Slope range: 6 to 12 percent Texture of the surface layer: Loam Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Well drained

Parent material: Till Floodina: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 1.6 percent

Typical profile:

Ap-0 to 7 inches; loam Bt—7 to 38 inches; clay loam Bk-38 to 60 inches: loam C-60 to 80 inches; loam

## Storden, eroded, and similar soils

Extent: 15 to 25 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and backslopes

Slope range: 6 to 12 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Pondina: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 1.2 percent

Typical profile:

Ap—0 to 7 inches; loam Bk-7 to 55 inches; loam C-55 to 80 inches; loam

### Terril

Extent: 5 to 15 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 2 to 6 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months): More than 6.7 feet (January, February, July, August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A1—0 to 27 inches; loam A2,BA—27 to 40 inches; loam Bw—40 to 63 inches; loam C—63 to 80 inches; loam

#### Hamel

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.6

inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 24 inches; loam Btg—24 to 46 inches; clay loam Cq—46 to 80 inches; loam

### Reedslake

Extent: 2 to 5 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and summits

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 6.7 feet (January, February, July,
August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 10.6 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap—0 to 12 inches; loam Bt—12 to 26 inches; clay loam Bk—26 to 48 inches; loam C—48 to 80 inches; loam

## L106D2—Lester-Storden complex, 12 to 18 percent slopes, eroded

## Component Description

#### Lester, eroded, and similar soils

Extent: 50 to 70 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and shoulders

Slope range: 12 to 18 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 1.6 percent

Typical profile:

Ap—0 to 7 inches; loam Bt—7 to 38 inches; clay loam Bk—38 to 60 inches; loam C—60 to 80 inches; loam

#### Storden, eroded, and similar soils

Extent: 15 to 25 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and backslopes

Slope range: 12 to 18 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet
all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 1.2

percent Typical profile:

> Ap—0 to 7 inches; loam Bk—7 to 55 inches; loam C—55 to 80 inches; loam

### Ridgeton

Extent: 5 to 15 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes Slope range: 9 to 14 percent

Slope range: 9 to 14 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained Parent material: Colluvium over till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 11.2

inches

Content of organic matter in the upper 10 inches: 4

percent Typical profile:

> Ap,A1—0 to 23 inches; loam A2,AB—23 to 38 inches; loam Bw—38 to 50 inches; loam C—50 to 80 inches; loam

#### Terril

Extent: 2 to 10 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 4 to 6 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 6.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A1—0 to 27 inches; loam A2,BA—27 to 40 inches; loam Bw—40 to 63 inches; loam C—63 to 80 inches; loam

#### Hamel

Extent: 0 to 6 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.6

inches

Content of organic matter in the upper 10 inches: 6

percent Typical profile:

> Ap,A,AB—0 to 24 inches; loam Btg—24 to 46 inches; clay loam Cg—46 to 80 inches; loam

## L107A—Canisteo-Glencoe, depressional, complex, 0 to 2 percent slopes

## **Component Description**

### Canisteo and similar soils

Extent: 30 to 70 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and rims of

depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7 inches

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 18 inches; clay loam Bkg—18 to 39 inches; loam Cg—39 to 80 inches; loam

#### Glencoe and similar soils

Extent: 15 to 55 percent of the unit Geomorphic setting: Moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2

feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)
Available water capacity to a depth of 60 inches: 11.2

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

Ap—0 to 10 inches; clay loam A,ABg—10 to 35 inches; clay loam Bq—35 to 48 inches; loam

Cg—48 to 60 inches; loam

#### Harps

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Rims of depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.6

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Apk, Ak-0 to 13 inches; clay loam

Bk—13 to 30 inches; loam Cq—30 to 60 inches; loam

#### Canisteo, depressional

Extent: 0 to 5 percent of the unit

Geomorphic setting: Depression on moraines

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2

feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot

(March)

Ponding is deepest (depth, months): 1 foot (April)
Available water capacity to a depth of 60 inches: 10.7 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 17 inches; silty clay loam Bg—17 to 30 inches; silty clay loam

2Cg—30 to 60 inches; loam

#### Crippin

Extent: 0 to 5 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet (April)

Wet soil moisture status is lowest (depth, months): More than 5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.9

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap, AB—0 to 15 inches; loam Bw—15 to 27 inches: loam C-27 to 60 inches; loam

## L108A—Cordova-Rolfe, depressional, complex, 0 to 2 percent slopes

## Component Description

#### Cordova and similar soils

Extent: 50 to 75 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Floodina: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

Content of organic matter in the upper 10 inches: 5.5

percent Typical profile:

> Ap, A—0 to 18 inches; clay loam Btg-18 to 38 inches; clay loam Cg-38 to 80 inches; loam

### Rolfe and similar soils

Extent: 15 to 35 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Silt loam

Depth to restrictive feature: Very deep (more than 60

Drainage class: Very poorly drained

Parent material: Glaciolacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April) Available water capacity to a depth of 60 inches: 10.3

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A—0 to 12 inches; silt loam E—12 to 20 inches; silt loam Btg—20 to 35 inches; silty clay 2Bt—35 to 51 inches; clay loam 2Cg—51 to 60 inches; loam

#### Le Sueur

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): 1.5 feet (April)

Wet soil moisture status is lowest (depth, months): 5.9 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 5 percent

Typical profile:

Ap,AB—0 to 17 inches; clay loam Bt—17 to 37 inches; clay loam Bk-37 to 46 inches: loam C-46 to 80 inches: loam

## L109A—Marna-Barbert, depressional, complex, 0 to 2 percent slopes

### Component Description

### Marna and similar soils

Extent: 55 to 75 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 20 inches; silty clay loam

Bg—20 to 32 inches; clay 2Bg—32 to 41 inches; clay loam 2Bkg—41 to 60 inches; loam

#### Barbert and similar soils

Extent: 20 to 35 percent of the unit Geomorphic setting: Lake plains Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Silt loam

Depth to restrictive feature: Very deep (more than 60

Drainage class: Very poorly drained Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April) Available water capacity to a depth of 60 inches: 10.9

Content of organic matter in the upper 10 inches: 3.7 percent

Typical profile:

Ap—0 to 7 inches; silt loam E-7 to 17 inches; silt loam Btg—17 to 43 inches; clay

C—43 to 60 inches; silty clay loam

#### Guckeen

Extent: 0 to 10 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Flats and slight rises

Slope range: 0 to 3 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet (April, May)

Wet soil moisture status is lowest (depth, months): 4.9

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.1

Content of organic matter in the upper 10 inches: 5

percent Typical profile:

> Ap,A—0 to 15 inches; silty clay loam Bw—15 to 24 inches; silty clay loam 2Bw-24 to 30 inches; clay loam

2Cg—30 to 60 inches; loam

## L110E—Lester-Ridgeton complex, 18 to 25 percent slopes

## Component Description

#### Lester and similar soils

Extent: 45 to 65 percent of the unit

Geomorphic setting: Escarpments on moraines Position on the landform: Shoulders and backslopes

Slope range: 18 to 25 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.4

Content of organic matter in the upper 10 inches: 3 percent

Typical profile:

A—0 to 5 inches; loam

BE,Bt—5 to 34 inches; clay loam Bk—34 to 60 inches; loam

C-60 to 80 inches; loam

## Ridgeton and similar soils

Extent: 20 to 40 percent of the unit

Geomorphic setting: Escarpments on moraines Position on the landform: Footslopes and backslopes Slope range: 12 to 25 percent

Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained Parent material: Colluvium over till

Floodina: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 11.4

Content of organic matter in the upper 10 inches: 5

percent Typical profile:

A1,A2,A3—0 to 32 inches; loam Bw-32 to 40 inches; loam C1,C2—40 to 80 inches; loam

#### Cokato

Extent: 10 to 20 percent of the unit

Geomorphic setting: Escarpments on moraines Position on the landform: Summits and backslopes

Slope range: 18 to 25 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Floodina: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.8

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

A-0 to 16 inches; loam Bt—16 to 30 inches; clay loam Bk-30 to 60 inches: loam

#### **Belview**

Extent: 0 to 15 percent of the unit

Geomorphic setting: Escarpments on moraines Position on the landform: Backslopes and shoulders

Slope range: 18 to 25 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

Drainage class: Well drained

Parent material: Till

Flooding: None

Depth to wet soil moisture status: More than 5 feet all

vear

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 3.7

percent Typical profile:

> A—0 to 9 inches: loam Bk-9 to 50 inches; loam C-50 to 60 inches; loam

#### Hamel

Extent: 0 to 5 percent of the unit

Geomorphic setting: Escarpments on moraines

Position on the landform: Toeslopes

Slope range: 1 to 4 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

Drainage class: Poorly drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.5

Content of organic matter in the upper 10 inches: 6

percent Typical profile:

A1,A2—0 to 22 inches; loam

Btg—22 to 41 inches; clay loam

Cg—41 to 80 inches; loam

#### Terril

Extent: 1 to 5 percent of the unit

Geomorphic setting: Escarpments on moraines

Position on the landform: Footslopes

Slope range: 4 to 6 percent

Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Moderately well drained Parent material: Colluvium over till

Floodina: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 11.3

inches

Content of organic matter in the upper 10 inches: 4

percent Typical profile:

> A1,A2—0 to 24 inches; loam AB—24 to 37 inches; loam Bw—37 to 57 inches; loam C—57 to 80 inches; loam

## L110F—Lester-Ridgeton complex, 25 to 45 percent slopes

## **Component Description**

#### Lester and similar soils

Extent: 45 to 65 percent of the unit

Geomorphic setting: Escarpments on moraines Position on the landform: Backslopes and shoulders

Slope range: 25 to 45 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.4

inches

Content of organic matter in the upper 10 inches: 3.3 percent

Typical profile:

A—0 to 6 inches; loam Bt—6 to 25 inches; clay loam C—25 to 60 inches; loam

#### Ridgeton and similar soils

Extent: 20 to 40 percent of the unit

Geomorphic setting: Escarpments on moraines Position on the landform: Footslopes and backslopes

Slope range: 18 to 35 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained Parent material: Colluvium over till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None Available water capacity to a depth of 60 inches: 11.4

Content of organic matter in the upper 10 inches: 5 percent

Typical profile:

A1,A2,A3—0 to 32 inches; loam Bw—32 to 40 inches; loam C1,C2—40 to 80 inches; loam

#### Cokato

Extent: 0 to 20 percent of the unit

Geomorphic setting: Escarpments on moraines Position on the landform: Backslopes and summits

Slope range: 25 to 40 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.8

inches

Content of organic matter in the upper 10 inches: 4

percent Typical profile:

> A—0 to 16 inches; loam Bt—16 to 30 inches; clay loam Bk—30 to 60 inches: loam

#### **Belview**

Extent: 2 to 15 percent of the unit

Geomorphic setting: Escarpments on moraines Position on the landform: Backslopes and shoulders

Slope range: 25 to 45 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 5 feet all

year

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 3.7 percent

Typical profile:

A—0 to 9 inches; loam Bk—9 to 50 inches; loam C—50 to 60 inches; loam

#### Terril

Extent: 1 to 5 percent of the unit

Geomorphic setting: Escarpments on moraines

Position on the landform: Footslopes

Slope range: 4 to 6 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months): More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 11.3

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

A1,A2—0 to 24 inches; loam AB—24 to 37 inches; loam Bw—37 to 57 inches; loam C—57 to 80 inches; loam

#### Hamel

Extent: 0 to 3 percent of the unit

Geomorphic setting: Escarpments on moraines

Position on the landform: Toeslopes

Slope range: 1 to 4 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.5

inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

A1,A2—0 to 22 inches; loam Btg—22 to 41 inches; clay loam Cg—41 to 80 inches; loam

## L111A—Nicollet silty clay loam, 1 to 3 percent slopes

## **Component Description**

#### Nicollet and similar soils

Extent: 70 to 90 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): 1.5 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 6.7 feet (February, August)

Pondina: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap—0 to 10 inches; silty clay loam Bw—10 to 31 inches; clay loam Bk—31 to 42 inches; loam C—42 to 80 inches; loam

#### Clarion

Extent: 0 to 15 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and summits

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Floodina: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 6.7 feet (January, February, July,
August, September, October, December)

Ponding: None

Available water capacity to a depth of 60 inches: 10.9 inches

Content of organic matter in the upper 10 inches: 4.5 percent

Typical profile:

Ap,A—0 to 14 inches; loam Bw—14 to 33 inches; loam Bk—33 to 60 inches; loam

#### Webster

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Pondina: None

Available water capacity to a depth of 60 inches: 10.9

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A,AB—0 to 24 inches; silty clay loam

Bg—24 to 45 inches; clay loam Cg—45 to 80 inches; loam

## L112A—Webster silty clay loam, 0 to 2 percent slopes

## **Component Description**

## Webster and similar soils

Extent: 75 to 90 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.9 inches

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A,AB—0 to 24 inches; silty clay loam

Bg—24 to 45 inches; clay loam Cg—45 to 80 inches; loam

#### Glencoe

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2

feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot

(March)

Ponding is deepest (depth, months): 1 foot (April)
Available water capacity to a depth of 60 inches: 11.2
inches

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

Ap—0 to 10 inches; clay loam A,ABg—10 to 35 inches; clay loam Bg—35 to 48 inches; loam

#### Nicollet

Extent: 0 to 10 percent of the unit

Cg-48 to 60 inches; loam

Geomorphic setting: Lake plains and moraines Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained Parent material: Lacustrine sediments over till Flooding: None

Wet soil moisture status is highest (depth, months): 1.5 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 6.7 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap—0 to 10 inches; silty clay loam Bw—10 to 31 inches; clay loam Bk—31 to 42 inches; loam C—42 to 80 inches; loam

## L113B—Reedslake loam, 2 to 5 percent slopes

## **Component Description**

#### Reedslake and similar soils

Extent: 65 to 80 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Summits and backslopes

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 10.6

inches

Content of organic matter in the upper 10 inches: 4

percent Typical profile:

> Ap—0 to 12 inches; loam Bt—12 to 26 inches; clay loam Bk—26 to 48 inches; loam C—48 to 80 inches; loam

#### Le Sueur

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): 1.5 feet (April)

Wet soil moisture status is lowest (depth, months): 5.9 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 5 percent

Typical profile:

Ap,AB—0 to 17 inches; clay loam Bt—17 to 37 inches; clay loam Bk—37 to 46 inches; loam C—46 to 80 inches; loam

#### Reedslake, eroded

Extent: 5 to 15 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and summits

Slope range: 2 to 5 percent
Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet (January, February, July,

August, September)

Pondina: None

Available water capacity to a depth of 60 inches: 10.6

inches

Content of organic matter in the upper 10 inches: 2 percent

Typical profile:

Ap—0 to 12 inches; loam Bt—12 to 26 inches; clay loam Bk—26 to 48 inches; loam C—48 to 80 inches; loam

### Cordova

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 18 inches; clay loam Btg—18 to 38 inches; clay loam Cg—38 to 80 inches; loam

## L114A—Hanlon fine sandy loam, 0 to 3 percent slopes, rarely flooded

## Component Description

#### Hanlon, rarely flooded, and similar soils

Extent: 70 to 95 percent of the unit Geomorphic setting: Flood plains

Position on the landform: Flats and slight rises

Slope range: 0 to 3 percent

Texture of the surface layer: Fine sandy loam

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Moderately well drained

Parent material: Alluvium

Flooding does not occur (months): January, February, July, August, September, October, November, December

Flooding is most likely (frequency, months): Rare (March, April, May, June)

Wet soil moisture status is highest (depth, months): 2.5 feet (April)

Wet soil moisture status is lowest (depth, months): 3.9 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 9.9 inches

Content of organic matter in the upper 10 inches: 2.5 percent

Typical profile:

A—0 to 24 inches; fine sandy loam
AB—24 to 52 inches; fine sandy loam
Bw1—52 to 57 inches; fine sandy loam
Bw2,C—57 to 80 inches; stratified fine sand to
loamy fine sand to fine sandy loam

## Coland, occasionally flooded

Extent: 5 to 15 percent of the unit

Geomorphic setting: Flood plains Position on the landform: Flats Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Alluvium

Flooding does not occur (months): January, February, September, October, November, December

Flooding is most likely (frequency, months):

Occasional (March, April, May, June, July, August) Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 12.2 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 25 inches; silty clay loam AC,Cg1—25 to 54 inches; loam Cg2—54 to 60 inches; sandy loam

#### Minneopa, rarely flooded

Extent: 5 to 10 percent of the unit Geomorphic setting: Flood plains

Position on the landform: Flats and slight rises

Slope range: 0 to 3 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Moderately well drained

Parent material: Alluvium

Flooding does not occur (months): January, February, July, August, September, October, November, December

Flooding is most likely (frequency, months): Rare (March, April, May, June)

Wet soil moisture status is highest (depth, months): 2.5 feet (April)

Wet soil moisture status is lowest (depth, months): 3.9 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 5.3 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A—0 to 15 inches; sandy loam Bw—15 to 20 inches; sandy loam BC,C—20 to 60 inches; loamy sand

## L115A—Brownton-Lura, depressional, complex, 0 to 2 percent slopes

## **Component Description**

#### Brownton and similar soils

Extent: 50 to 60 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Flats and rims of

depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 22 inches; silty clay loam

Bg—22 to 38 inches; silty clay 2Cg—38 to 60 inches; loam

#### Lura and similar soils

Extent: 30 to 40 percent of the unit Geomorphic setting: Lake plains Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Silty clay

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months): At

the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2

feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April) Available water capacity to a depth of 60 inches: 9.6 inches

Content of organic matter in the upper 10 inches: 8 percent

Typical profile:

Ap—0 to 10 inches; silty clay A—10 to 58 inches; clay Bg—58 to 72 inches; silty clay

#### Marna

Extent: 5 to 15 percent of the unit

Geomorphic setting: Lake plains and moraines Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 20 inches; silty clay loam

Bg—20 to 32 inches; clay 2Bg—32 to 41 inches; clay loam 2Bkg—41 to 60 inches; loam

## L116A—Le Sueur-Lerdal complex, 1 to 3 percent slopes

## **Component Description**

#### Le Sueur and similar soils

Extent: 35 to 55 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet (April)

Wet soil moisture status is lowest (depth, months): 5.9

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5 inches

Content of organic matter in the upper 10 inches: 5 percent

Typical profile:

Ap,AB—0 to 17 inches; clay loam Bt—17 to 37 inches; clay loam Bk—37 to 46 inches; loam C—46 to 80 inches: loam

#### Lerdal and similar soils

Extent: 30 to 50 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Glaciofluvial sediments and reworked till over till

Flooding: None

Wet soil moisture status is highest (depth, months):

1.6 feet (November)

Wet soil moisture status is lowest (depth, months): 4.9 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.2

Content of organic matter in the upper 10 inches: 2.6 percent

Typical profile:

Ap—0 to 8 inches; clay loam E—8 to 12 inches; clay loam

Bt,Btg-12 to 41 inches; silty clay loam

Bk-41 to 80 inches; loam

#### Mazaska

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam Depth to restrictive feature: More than 60 inches

Drainage class: Poorly drained

Parent material: Glaciofluvial sediments and reworked

till over till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 9.5

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 15 inches; silty clay loam

Btg—15 to 42 inches; clay Bkg—42 to 80 inches; loam

#### Kilkenny

Extent: 0 to 10 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and summits

Slope range: 2 to 6 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained

Parent material: Glaciofluvial sediments and reworked

till over till Floodina: None

Wet soil moisture status is highest (depth, months):

1.7 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet (February, July, August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 10.3

inches

Content of organic matter in the upper 10 inches: 3 percent

Typical profile:

Ap—0 to 11 inches; clay loam Bt—11 to 35 inches; clay loam 2Bk,2C—35 to 80 inches; loam

## L117C2—Omsrud loam, 6 to 12 percent slopes, eroded

### Component Description

#### Omsrud, eroded, and similar soils

Extent: 55 to 75 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and backslopes

Slope range: 6 to 12 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 10.6

Content of organic matter in the upper 10 inches: 2.9 percent

Typical profile:

Ap-0 to 9 inches; loam Bw—9 to 19 inches: clay loam Bk—19 to 36 inches; loam C-36 to 80 inches; loam

#### **Omsrud**

Extent: 5 to 20 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and shoulders

Slope range: 6 to 12 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.7

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap, A-0 to 12 inches; loam Bw-12 to 16 inches; clay loam Bk-16 to 32 inches; loam C-32 to 60 inches; loam

#### Terril

Extent: 5 to 10 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 4 to 8 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

Drainage class: Moderately well drained Parent material: Colluvium over till

Floodina: None

Wet soil moisture status is highest (depth, months): 3.6 feet (April)

Wet soil moisture status is lowest (depth, months): More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A1—0 to 27 inches; loam A2,BA—27 to 40 inches; loam Bw-40 to 63 inches; loam C-63 to 80 inches; loam

#### Delft

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Pondina: None

Available water capacity to a depth of 60 inches: 11.4

Content of organic matter in the upper 10 inches: 6

percent Typical profile:

> Ap,A—0 to 37 inches; loam Bg—37 to 50 inches; clay loam Cg-50 to 60 inches; loam

### Storden, eroded

Extent: 0 to 10 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and shoulders

Slope range: 6 to 12 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Depth to wet soil moisture status: More than 6.7 feet

all year Ponding: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 1.2 percent

Typical profile:

Ap—0 to 7 inches; loam Bk—7 to 55 inches; loam C—55 to 80 inches; loam

## L118A—Rushriver fine sandy loam, 0 to 1 percent slopes, frequently flooded

## Component Description

## Rushriver, frequently flooded, and similar soils

Extent: 70 to 90 percent of the unit Geomorphic setting: Flood plains Slope range: 0 to 1 percent

Texture of the surface layer: Stratified sandy loam to

fine sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Alluvium

Flooding does not occur (months): January, February, September, October, November, December

Flooding is most likely (frequency, months): Frequent (March, April, May, June)

Wet soil moisture status is highest (depth, months): At the surface (April)

Wet soil moisture status is lowest (depth, months): 2 feet (August)

Ponding: None

Available water capacity to a depth of 60 inches: 7.8 inches

Content of organic matter in the upper 10 inches: 2.5 percent

Typical profile:

A—0 to 41 inches; stratified sandy loam to fine sandy loam

C—41 to 80 inches; stratified fine sand to loamy very fine sand to silt loam

### Houghton, frequently flooded

Extent: 0 to 10 percent of the unit Geomorphic setting: Flood plains Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60 inches)

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Drainage class: Very poorly drained Parent material: Organic material

Flooding does not occur (months): January, February, September, October, November, December Flooding is most likely (frequency, months): Frequent

(March, April, May, June)

Wet soil moisture status: At the surface all year

Ponding: None

Available water capacity to a depth of 60 inches: 23.9

Content of organic matter in the upper 10 inches: 84.5 percent

Typical profile:

Oa—0 to 60 inches; muck

## Klossner, frequently flooded

Extent: 0 to 10 percent of the unit Geomorphic setting: Flood plains Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches

Drainage class: Very poorly drained

Parent material: Organic material over loamy till Flooding does not occur (months): January, February, September, October, November, December Flooding is most likely (frequency, months): Frequent

(March, April, May, June)

Wet soil moisture status: At the surface all year

Ponding: None

Available water capacity to a depth of 60 inches: 17.7

inches

Content of organic matter in the upper 10 inches: 42.5 percent

Typical profile:

Oa—0 to 22 inches; muck

2A1—22 to 45 inches; mucky silt loam

2A2—45 to 60 inches; silt loam

#### Medo, frequently flooded

Extent: 0 to 10 percent of the unit Geomorphic setting: Flood plains Slope range: 0 to 1 percent Texture of the surface layer: Muck

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Organic material over sandy deposits Flooding does not occur (months): January, February, September, October, November, December

Flooding is most likely (frequency, months): Frequent

(March, April, May, June)

Wet soil moisture status: At the surface all year

Ponding: None

Available water capacity to a depth of 60 inches: 14.5 inches

Content of organic matter in the upper 10 inches: 35 percent

Typical profile:

Oa—0 to 25 inches; muck

2A—25 to 31 inches; mucky silt loam 2Bg—31 to 45 inches; silt loam

2Cg-45 to 80 inches; gravelly coarse sand

## L119B—Angus Ioam, 2 to 5 percent slopes

## **Component Description**

## Angus and similar soils

Extent: 50 to 90 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Summits and backslopes

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 2.5

percent
Typical profile:

Ap—0 to 8 inches; loam
Bt—8 to 35 inches; clay loam
BC—35 to 40 inches; clay loam

C-40 to 80 inches; loam

#### Angus, eroded

Extent: 5 to 40 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Shoulders

Slope range: 2 to 5 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Floodina: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months): More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 1.8 percent

Typical profile:

Ap—0 to 8 inches; clay loam Bt—8 to 40 inches; clay loam Bk—40 to 60 inches; loam

#### Cordova

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

inches

Content of organic matter in the upper 10 inches: 5.5

percent
Typical profile:

Ap,A—0 to 18 inches; clay loam

Btg—18 to 38 inches; clay loam

Cg-38 to 80 inches; loam

#### Le Sueur

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet (April)

Wet soil moisture status is lowest (depth, months): 5.9

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

inches

Content of organic matter in the upper 10 inches: 5

percent

Typical profile:

Ap,AB—0 to 17 inches; clay loam Bt—17 to 37 inches; clay loam Bk—37 to 46 inches; loam C—46 to 80 inches; loam

## L120A—Good Thunder silty clay loam, 0 to 3 percent slopes

#### Component Description

#### Good Thunder and similar soils

Extent: 70 to 90 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Flats and slight rises

Slope range: 0 to 3 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months): 2.5 feet (April, May)

Wet soil moisture status is lowest (depth, months): 5.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.6 inches

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 15 inches; silty clay loam Bt—15 to 32 inches; silty clay C—32 to 80 inches; silt loam

#### Ocheyedan

Extent: 5 to 15 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and summits

Slope range: 2 to 4 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Loamy and silty sediments

Floodina: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)
Wet soil moisture status is lowest (depth, months):

More than 5 feet (January, February, July, August, September, October, December)

September, October, De

Ponding: None

Available water capacity to a depth of 60 inches: 11.5

Content of organic matter in the upper 10 inches: 4.5 percent

Typical profile:

Ap—0 to 10 inches; loam

Bw1,Bw2—10 to 30 inches; loam

2C1,2C2—30 to 60 inches; stratified loam to silt loam

#### Minnetonka

Extent: 5 to 15 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.5

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.8

inches

Content of organic matter in the upper 10 inches: 5

percent Typical profile:

Ap, A—0 to 13 inches; silty clay loam

Btg—13 to 35 inches; silty clay

Cg-35 to 60 inches; silty clay loam

## L121B—Clarion clay loam, 2 to 5 percent slopes

#### Component Description

## Clarion and similar soils

Extent: 70 to 90 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Summits and backslopes

Slope range: 2 to 5 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches'

Drainage class: Well drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 6.7 feet (January, February, July,
August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 10.9 inches

Content of organic matter in the upper 10 inches: 4.5 percent

Typical profile:

Ap,A—0 to 13 inches; clay loam Bw—13 to 37 inches; clay loam C—37 to 80 inches; loam

#### Guckeen

Extent: 10 to 20 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 0 to 5 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet (April, May)

Wet soil moisture status is lowest (depth, months): 4.9 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.1 inches

Content of organic matter in the upper 10 inches: 5 percent

Typical profile:

Ap,A—0 to 15 inches; silty clay loam Bw—15 to 24 inches; silty clay loam 2Bw—24 to 30 inches; clay loam 2Cg—30 to 60 inches; loam

#### Marna

Extent: 0 to 10 percent of the unit

Geomorphic setting: Moraines and lake plains Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60 inches)

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Drainage class: Poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 20 inches; silty clay loam

Bg—20 to 32 inches; clay 2Bg—32 to 41 inches; clay loam 2Bkg—41 to 60 inches; loam

## L122B—Reedslake-Estherville complex, 2 to 6 percent slopes

## Component Description

#### Reedslake and similar soils

Extent: 45 to 65 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Backslopes and summits

Slope range: 2 to 5 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Well drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

3.6 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 6.7 feet (January, February, July,

August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 10.6 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap—0 to 12 inches; loam Bt—12 to 26 inches; clay loam Bk—26 to 48 inches; loam C—48 to 80 inches; loam

## Estherville and similar soils

Extent: 15 to 40 percent of the unit Geomorphic setting: Hills on moraines

Position on the landform: Shoulders and backslopes

Slope range: 2 to 6 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat excessively drained

Parent material: Outwash

Flooding: None

Depth to wet soil moisture status: More than 5 feet all

Ponding: None

Available water capacity to a depth of 60 inches: 4.1

Content of organic matter in the upper 10 inches: 3 percent

Typical profile:

Ap,A—0 to 13 inches; sandy loam Bw1—13 to 18 inches; sandy loam

2Bw2—18 to 23 inches; loamy coarse sand 2C—23 to 60 inches; gravelly coarse sand

#### Le Sueur

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet (April)

Wet soil moisture status is lowest (depth, months):

More than 5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5 inches

Content of organic matter in the upper 10 inches: 5 percent

Typical profile:

Ap,AB—0 to 17 inches; clay loam Bt—17 to 37 inches; clay loam Bk—37 to 46 inches; loam C—46 to 80 inches; loam

#### Cordova

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

inches

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 18 inches; clay loam Btg—18 to 38 inches; clay loam Cq—38 to 80 inches; loam

#### Lowlein

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and rises

Slope range: 0 to 2 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained Parent material: Outwash over till

Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet (April)

Wet soil moisture status is lowest (depth, months): 3.9

feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 8.8

Content of organic matter in the upper 10 inches: 3.5 percent

Typical profile:

Ap,A—0 to 14 inches; sandy loam Bw1—14 to 24 inches; sandy loam Bw2—24 to 31 inches; loamy sand 2C—31 to 60 inches; loam

## L123A—Belleville sandy loam, 0 to 2 percent slopes

## Component Description

#### Belleville and similar soils

Extent: 80 to 95 percent of the unit

Geomorphic setting: Beaches on moraines

Position on the landform: Flats Slope range: 0 to 2 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Glaciolacustrine sediments over till Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 2 feet (August)

Ponding: None

Available water capacity to a depth of 60 inches: 8.4 inches

Content of organic matter in the upper 10 inches: 4.5 percent

Typical profile:

Ap—0 to 11 inches; sandy loam Bg—11 to 27 inches; loamy sand 2Bg—27 to 48 inches; loam 2Cg—48 to 80 inches; loam

## Granby

Extent: 10 to 20 percent of the unit

Geomorphic setting: Beaches on moraines Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Loamy fine sand

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Very poorly drained

Parent material: Outwash

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April, May, June)

Wet soil moisture status is lowest (depth, months): 1.8 feet (August)

Ponding is shallowest (depth, months): 0.5 foot (June)
Ponding is deepest (depth, months): 1 foot (March,
April, May)

Available water capacity to a depth of 60 inches: 4.9 inches

Content of organic matter in the upper 10 inches: 7 percent

Typical profile:

Ap—0 to 12 inches; loamy fine sand AC—12 to 24 inches; fine sand C—24 to 60 inches; loamy fine sand

## L124A—Glencoe mucky clay loam, depressional, 0 to 1 percent slopes

#### **Component Description**

#### Glencoe mucky clay loam and similar soils

Extent: 80 to 90 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions Slope range: 0 to 1 percent

Texture of the surface layer: Mucky clay loam

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 11.4 inches

Content of organic matter in the upper 10 inches: 14 percent

Typical profile:

Ap—0 to 10 inches; mucky clay loam

A—10 to 29 inches; clay loam Bg—29 to 42 inches; loam Cg—42 to 60 inches; loam

#### Canisteo

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and rims

Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

0.5 100t (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.7

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 18 inches; clay loam Bkg—18 to 39 inches; loam Cg—39 to 80 inches; loam

#### Glencoe clay loam

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions Slope range: 0 to 1 percent Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material: Till Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)
Available water capacity to a depth of 60 inches: 11.2
inches

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

Ap—0 to 10 inches; clay loam A,ABg—10 to 35 inches; clay loam

Bg—35 to 48 inches; loam Cg—48 to 60 inches; loam

# L125A—Hanlon, rarely flooded-Coland, occasionally flooded, complex, 0 to 3 percent slopes

## Component Description

#### Hanlon, rarely flooded, and similar soils

Extent: 35 to 65 percent of the unit Geomorphic setting: Flood plains

Position on the landform: Flats and slight rises

Slope range: 0 to 3 percent

Texture of the surface layer: Fine sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained

Parent material: Alluvium

Flooding does not occur (months): January, February, July, August, September, October, November, December

Flooding is most likely (frequency, months): Rare (March, April, May, June)

Wet soil moisture status is highest (depth, months): 2.5 feet (April)

Wet soil moisture status is lowest (depth, months): 3.9 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 9.9

Content of organic matter in the upper 10 inches: 2.5 percent

### Typical profile:

A—0 to 24 inches; fine sandy loam
AB—24 to 52 inches; fine sandy loam
Bw1—52 to 57 inches; fine sandy loam
Bw2,C—57 to 80 inches; stratified fine sand to
loamy fine sand to fine sandy loam

## Coland, occasionally flooded, and similar soils

Extent: 25 to 40 percent of the unit Geomorphic setting: Flood plains Position on the landform: Flats Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Alluvium

Flooding does not occur (months): January, February, September, October, November, December

Flooding is most likely (frequency, months):

Occasional (March, April, May, June, July, August) Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Pondina: None

Available water capacity to a depth of 60 inches: 12.2 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 25 inches; silty clay loam AC,Cg1—25 to 54 inches; loam Cg2—54 to 60 inches; sandy loam

#### Minneopa, rarely flooded

Extent: 10 to 25 percent of the unit Geomorphic setting: Flood plains

Position on the landform: Flats and slight rises

Slope range: 0 to 3 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained

Parent material: Alluvium

Flooding does not occur (months): January, February, July, August, September, October, November, December

Flooding is most likely (frequency, months): Rare (March, April, May, June)

Wet soil moisture status is highest (depth, months): 2.5 feet (April)

Wet soil moisture status is lowest (depth, months): 3.9 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 5.3 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A—0 to 15 inches; sandy loam Bw—15 to 20 inches; sandy loam BC,C—20 to 60 inches; loamy sand

## L126A—Coland silty clay loam, 0 to 2 percent slopes, occasionally flooded

## **Component Description**

#### Coland, occasionally flooded, and similar soils

Extent: 65 to 90 percent of the unit Geomorphic setting: Flood plains Position on the landform: Flats Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Alluvium

Flooding does not occur (months): January, February, September, October, November, December Flooding is most likely (frequency, months):

Occasional (March, April, May, June, July, August) Wet soil moisture status is highest (depth, months):

0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 12.2

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 25 inches; silty clay loam AC,Cg1—25 to 54 inches; loam Cg2—54 to 60 inches; sandy loam

#### Minneopa, occasionally flooded

Extent: 0 to 15 percent of the unit Geomorphic setting: Flood plains

Position on the landform: Flats and slight rises

Slope range: 0 to 3 percent

Texture of the surface layer: Sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained

Parent material: Alluvium

Flooding does not occur (months): January, February, July, August, September, October, November, December

Flooding is most likely (frequency, months):

Occasional (March, April, May, June, July, August) Wet soil moisture status is highest (depth, months): 2.5 feet (April)

Wet soil moisture status is lowest (depth, months): 3.9 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 5.3 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A—0 to 15 inches; sandy loam Bw—15 to 20 inches; sandy loam BC,C—20 to 60 inches; loamy sand

#### Havelock, occasionally flooded

Extent: 0 to 10 percent of the unit Geomorphic setting: Flood plains Position on the landform: Flats Slope range: 0 to 2 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Alluvium

Flooding does not occur (months): January, February, September, October, November, December

Flooding is most likely (frequency, months):

Occasional (March, April, May, June, July, August) Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.1 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 23 inches; clay loam Bg—23 to 35 inches; clay loam

Cg—35 to 60 inches; stratified loam to silt loam to clay loam

#### Spillville, occasionally flooded

Extent: 0 to 10 percent of the unit Geomorphic setting: Flood plains

Position on the landform: Flats and slight rises

Slope range: 0 to 2 percent Texture of the surface layer: Loam Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Somewhat poorly drained

Parent material: Alluvium

Flooding does not occur (months): January, February, September, October, November, December

Flooding is most likely (frequency, months):

Occasional (March, April, May, June, July, August)

Wet soil moisture status is highest (depth, months):
1.5 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.7 inches

Content of organic matter in the upper 10 inches: 5 percent

Typical profile:

Ap,A—0 to 51 inches; loam C—51 to 60 inches; loam

## L127A—Coland silty clay loam, channeled, 0 to 2 percent slopes, frequently flooded

## Component Description

## Coland, frequently flooded, and similar soils

Extent: 65 to 90 percent of the unit Geomorphic setting: Flood plains Position on the landform: Flats Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60 inches)

inches)

Drainage class: Poorly drained Parent material: Alluvium

Flooding does not occur (months): January, February, September, October, November, December

Flooding is most likely (frequency, months): Frequent (March, April, May, June)

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 12.3 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

A1—0 to 12 inches; silty clay loam A2—12 to 30 inches; loam

A3—30 to 55 inches; stratified fine sandy loam to

AB,Bg-55 to 80 inches; fine sandy loam

#### Minneopa, occasionally flooded

Extent: 0 to 15 percent of the unit Geomorphic setting: Flood plains Position on the landform: Rises Slope range: 0 to 3 percent

Texture of the surface laver: Sandy loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Moderately well drained

Parent material: Alluvium

Flooding does not occur (months): January, February, July, August, September, October, November, December

Flooding is most likely (frequency, months):

Occasional (March, April, May, June, July, August)

Wet soil moisture status is highest (depth, months): 2.5 feet (April)

Wet soil moisture status is lowest (depth, months): 3.9 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 5.6 inches

Content of organic matter in the upper 10 inches: 3 percent

Typical profile:

A—0 to 16 inches; sandy loam Bw—16 to 29 inches; loamy sand C—29 to 60 inches; sand

#### Havelock, frequently flooded

Extent: 0 to 10 percent of the unit Geomorphic setting: Flood plains Position on the landform: Flats Slope range: 0 to 2 percent

Texture of the surface layer: Silt loam

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Poorly drained

Parent material: Alluvium

Flooding does not occur (months): January, February, September, October, November, December

Flooding is most likely (frequency, months): Frequent (March, April, May, June)

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

A,Bg1—0 to 30 inches; silt loam Bg2—30 to 40 inches; loam

Cg—40 to 60 inches; stratified loam to silt loam to clay loam

### Spillville, occasionally flooded

Extent: 0 to 10 percent of the unit Geomorphic setting: Flood plains

Position on the landform: Flats and slight rises

Slope range: 0 to 2 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Alluvium

Flooding does not occur (months): January, February, September, October, November, December

Flooding is most likely (frequency, months):

Occasional (March, April, May, June, July, August) Wet soil moisture status is highest (depth, months):

1.5 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 5 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.7 inches

Content of organic matter in the upper 10 inches: 5 percent

Typical profile:

A—0 to 51 inches; loam C—51 to 60 inches; loam

## L128A—Mazaska-Rolfe, depressional, complex, 0 to 2 percent slopes

#### Component Description

#### Mazaska and similar soils

Extent: 50 to 70 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and swales

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Glaciofluvial sediments and reworked

till over till Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 9.5 inches

Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:

Ap,A—0 to 15 inches; silty clay loam

Btg—15 to 42 inches; clay Bkg—42 to 80 inches; loam

#### Rolfe and similar soils

Extent: 20 to 35 percent of the unit Geomorphic setting: Moraines Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Silt loam

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material: Glaciolacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)

Available water capacity to a depth of 60 inches: 10.3 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A—0 to 12 inches; silt loam E—12 to 20 inches; silt loam Btg—20 to 35 inches; silty clay 2Bt—35 to 51 inches; clay loam 2Cg—51 to 60 inches; loam

#### Lerdal

Extent: 5 to 15 percent of the unit Geomorphic setting: Moraines

Position on the landform: Flats and slight rises

Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Somewhat poorly drained

Parent material: Glaciofluvial sediments and reworked till over till

Flooding: None

Wet soil moisture status is highest (depth, months): 1.6 feet (November)

Wet soil moisture status is lowest (depth, months): 4.9 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.2 inches

Content of organic matter in the upper 10 inches: 2.6 percent

Typical profile:

Ap—0 to 8 inches; clay loam E—8 to 12 inches; clay loam

Bt,Btg—12 to 41 inches; silty clay loam

Bk-41 to 80 inches; loam

## L129B—Terril loam, 2 to 6 percent slopes

## **Component Description**

#### Terril and similar soils

Extent: 80 to 95 percent of the unit Geomorphic setting: Hills on moraines Position on the landform: Footslopes

Slope range: 2 to 6 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches

Drainage class: Moderately well drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months): 3.6 feet (April)

Wet soil moisture status is lowest (depth, months):
More than 6.7 feet (January, February, July,
August, September)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4 inches

Content of organic matter in the upper 10 inches: 4 percent

Typical profile:

Ap,A1—0 to 27 inches; loam A2,BA—27 to 40 inches; loam Bw—40 to 63 inches; loam C—63 to 80 inches; loam

#### Delft

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent

Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Colluvium over till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.4 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 37 inches; loam Bg—37 to 50 inches; clay loam Cq—50 to 60 inches; loam

#### Hamel

Extent: 0 to 10 percent of the unit Geomorphic setting: Moraines

Position on the landform: Drainageways and swales

Slope range: 1 to 3 percent Texture of the surface layer: Loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Colluvium over till

Floodina: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.6

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 24 inches; loam Btg—24 to 46 inches; clay loam Cg—46 to 80 inches; loam

## L130A—Okoboji mucky silty clay loam, depressional, 0 to 1 percent slopes

#### Component Description

### Okoboji mucky silty clay loam and similar soils

Extent: 60 to 85 percent of the unit

Geomorphic setting: Moraines and lake plains

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Mucky silty clay loam
Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (February, August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)
Available water capacity to a depth of 60 inches: 12 inches

Content of organic matter in the upper 10 inches: 14 percent

Typical profile:

Ap,A—0 to 13 inches; mucky silty clay loam

A—13 to 35 inches; silty clay loam Bg—35 to 60 inches; silty clay loam

### Okoboji silty clay loam

Extent: 10 to 20 percent of the unit

Geomorphic setting: Moraines and lake plains

Position on the landform: Depressions

Slope range: 0 to 1 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): At the surface (March, April)

Wet soil moisture status is lowest (depth, months): 2 feet (August)

Ponding is shallowest (depth, months): 0.5 foot (March)

Ponding is deepest (depth, months): 1 foot (April)
Available water capacity to a depth of 60 inches: 12.1 inches

Content of organic matter in the upper 10 inches: 7.7 percent

Typical profile:

Ap,A—0 to 26 inches; silty clay loam Bg—26 to 42 inches; silty clay Cg—42 to 60 inches; silty clay loam

#### **Brownton**

Extent: 5 to 10 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Rims of depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained

Parent material: Lacustrine sediments over till

Flooding: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April, May)

Wet soil moisture status is lowest (depth, months): 2.6 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 10.5 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A,AB—0 to 22 inches; silty clay loam

Bg—22 to 38 inches; silty clay 2Cg—38 to 60 inches; loam

#### Spicer

Extent: 0 to 10 percent of the unit Geomorphic setting: Lake plains

Position on the landform: Rims of depressions

Slope range: 0 to 2 percent

Texture of the surface layer: Silty clay loam

Depth to restrictive feature: Very deep (more than 60

inches)

Drainage class: Poorly drained Parent material: Lacustrine sediments

Floodina: None

Wet soil moisture status is highest (depth, months): 0.5 foot (April)

Wet soil moisture status is lowest (depth, months): 3.3 feet (February, August)

Ponding: None

Available water capacity to a depth of 60 inches: 11.7 inches

Content of organic matter in the upper 10 inches: 6 percent

Typical profile:

Ap,A—0 to 16 inches; silty clay loam Bg,BCg—16 to 40 inches; silt loam Cg—40 to 60 inches; silt loam

### M-W—Water, miscellaneous

### Component Description

• This map unit consists of bodies of water that have been constructed, including sewage lagoons, stormwater sediment basins with a permanent pool of water, and aquaculture ponds.

## U3B—Udorthents, loamy (cut and fill land), 0 to 6 percent slopes

## **Component Description**

### Udorthents (cut and fill land)

Extent: 100 percent of the unit Geomorphic setting: Moraines Slope range: 0 to 6 percent

Parent material: Variable loamy material

Flooding: None

General description: Udorthents consist primarily of areas that have been cut for leveling or filled for development. The cut and/or fill material is

dominantly loamy soil material. As much as 30 percent of this map unit is covered by impervious surfaces. Most of the areas have been disturbed by construction activity. Because of the variability of this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

## W-Water

## Component Description

• This map unit consists of naturally occurring bodies of water.

Table 2.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
GP	  Pits, gravel-Udipsamments complex	126	   *
L5A	Delft, overwash-Delft complex, 1 to 4 percent slopes	3,817	1.4
L13A	Klossner muck, depressional, 0 to 1 percent slopes	3,447	1.2
L14A	Houghton muck, depressional, 0 to 1 percent slopes	2,987	1.1
L15A	Klossner, Okoboji, and Glencoe soils, ponded, 0 to 1 percent slopes	1,524	0.6
L16A	Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes	7,184	2.6
L26B	Shorewood silty clay loam, 3 to 6 percent slopes	143	*
L36A	Hamel, overwash-Hamel complex, 1 to 4 percent slopes	8,099	2.9
L40B	Angus-Kilkenny complex, 2 to 6 percent slopes	6,354	2.3
L41C2	Lester-Kilkenny complex, 6 to 12 percent slopes, eroded	4,163	1.5
L41D2	Lester-Kilkenny complex, 12 to 18 percent slopes, eroded	1,287	0.5
L41E	Lester-Kilkenny complex, 18 to 25 percent slopes	486	0.2
L48A	Derrynane, overwash-Derrynane complex, 1 to 4 percent slopes	2,972	1.1
L49A	Klossner soils, depressional, 0 to 1 percent slopes	373	0.1
L50A	Houghton and Muskego soils, depressional, 0 to 1 percent slopes	1,827	0.7
L51C2	Gladek silt loam, 6 to 12 percent slopes, eroded	104	j *
L56A	Muskego and Klossner soils, 0 to 1 percent slopes, frequently flooded	141	j *
L57A	Medo muck, depressional, 0 to 1 percent slopes	68	*
L63A	Klossner muck, lake plain, depressional, 0 to 1 percent slopes	313	0.1
L64A	Tadkee-Tadkee, depressional, complex, 0 to 2 percent slopes	520	0.2
L73A	Blue Earth mucky silty clay loam, depressional, 0 to 1 percent slopes	272	*
L74A	Estherville sandy loam, terrace, 0 to 2 percent slopes	3	*
L75B	Barrington silt loam, 2 to 6 percent slopes	342	0.1
L76B	Dickinson fine sandy loam, 1 to 6 percent slopes	496	0.2
L77A	Brownton silty clay loam, 0 to 2 percent slopes	319	0.1
L78A	Canisteo clay loam, 0 to 2 percent slopes	2,341	0.8
L79B	Clarion loam, 2 to 5 percent slopes	12,373	4.5
L80C2	Lester loam, 6 to 12 percent slopes, eroded	10,209	3.7
L80D2	Lester loam, 12 to 18 percent slopes, eroded	2,772	1.0
L81A	Cordova clay loam, 0 to 2 percent slopes	12,707	4.6
L82A	Marna silty clay loam, 0 to 2 percent slopes	14,784	5.3
L83A	Webster clay loam, 0 to 2 percent slopes	20,603	7.4
L84A	Glencoe clay loam, depressional, 0 to 1 percent slopes	7,624	2.8
L85A	Nicollet clay loam, 1 to 3 percent slopes	13,962	5.0
L86A	Madelia silty clay loam, 0 to 2 percent slopes	399	:
L87A	Kingston silty clay loam, 1 to 3 percent slopes	275	*
L88A	Lura silty clay, depressional, 0 to 1 percent slopes	494	0.2
L89A	Guckeen silty clay loam, 0 to 3 percent slopes	3,191	1.2
L90A	Le Sueur clay loam, 0 to 3 percent slopes	16,246	j 5.9

See footnote at end of table.

Table 2.--Acreage and Proportionate Extent of the Soils--Continued

Map	Soil name	Acres	Percent
symbol			<u> </u>
L91A	Mazaska silty clay loam, 0 to 2 percent slopes	3,259	1.2
192A	Darfur loam, 0 to 2 percent slopes	271	j *
	Muskego muck, depressional, 0 to 1 percent slopes	3,791	1.4
	Lowlein fine sandy loam, terrace, 0 to 3 percent slopes	277	0.1
	Hawick gravelly coarse sandy loam, 12 to 25 percent slopes	33	j *
196B	Estherville-Hawick complex, 2 to 6 percent slopes	204	j *
	Hawick-Estherville complex, 6 to 12 percent slopes	197	j *
	Crippin-Nicollet complex, 1 to 3 percent slopes	609	0.2
L99B	Clarion-Swanlake complex, 2 to 6 percent slopes	367	0.1
L100B	Clarion-Estherville complex, 2 to 6 percent slopes	1,703	0.6
101C2	Omsrud-Hawick-Storden complex, 6 to 12 percent slopes, eroded	1,150	0.4
	Omsrud-Hawick-Storden complex, 12 to 18 percent slopes, eroded	164	· *
L102C2	Omsrud-Storden complex, 6 to 12 percent slopes, eroded	1,353	0.5
L102D2	Omsrud-Storden complex, 12 to 18 percent slopes, eroded	546	0.2
L103A	Fieldon-Canisteo complex, 0 to 2 percent slopes	404	0.1
L105C2	Lester-Hawick complex, 6 to 12 percent slopes, eroded	1,441	0.5
L105D2	Lester-Hawick complex, 12 to 18 percent slopes, eroded	561	0.2
L106C2	Lester-Storden complex, 6 to 12 percent slopes, eroded	46	*
106D2	Lester-Storden complex, 12 to 18 percent slopes, eroded	6	*
107A	Canisteo-Glencoe, depressional, complex, 0 to 2 percent slopes	28,707	10.4
108A	Cordova-Rolfe, depressional, complex, 0 to 2 percent slopes	3,060	1.1
109A	Marna-Barbert, depressional, complex, 0 to 2 percent slopes	1,731	0.6
110E	Lester-Ridgeton complex, 18 to 25 percent slopes	934	0.3
L110F	Lester-Ridgeton complex, 25 to 45 percent slopes	696	0.3
111A	Nicollet silty clay loam, 1 to 3 percent slopes	2,906	1.0
L112A	Webster silty clay loam, 0 to 2 percent slopes	6,435	2.3
L113B	Reedslake loam, 2 to 5 percent slopes	19,730	7.1
L114A	Hanlon fine sandy loam, 0 to 3 percent slopes, rarely flooded	195	*
	Brownton-Lura, depressional, complex, 0 to 2 percent slopes	2,497	0.9
L116A	Le Sueur-Lerdal complex, 1 to 3 percent slopes	3,946	1.4
L117C2	Omsrud loam, 6 to 12 percent slopes, eroded	3,174	1.1
	Rushriver fine sandy loam, 0 to 1 percent slopes, frequently flooded	2	*
	Angus loam, 2 to 5 percent slopes	51	
	Good Thunder silty clay loam, 0 to 3 percent slopes	156	*
	Clarion clay loam, 2 to 5 percent slopes	1,811	0.7
	Reedslake-Estherville complex, 2 to 6 percent slopes	1,600	0.6
	Belleville sandy loam, 0 to 2 percent slopes	249	*
	Glencoe mucky clay loam, depressional, 0 to 1 percent slopes	343	0.1
125A	Hanlon, rarely flooded-Coland, occasionally flooded, complex, 0 to 3		!
	percent slopes	996	0.4
	Coland silty clay loam, 0 to 2 percent slopes, occasionally flooded	3,266	1.2
127A	Coland silty clay loam, channeled, 0 to 2 percent slopes, frequently		!
	flooded	3,190	1.2
	Mazaska-Rolfe, depressional, complex, 0 to 2 percent slopes	1,211	0.4
	Terril loam, 2 to 6 percent slopes	2,591	0.9
	Okoboji mucky silty clay loam, depressional, 0 to 1 percent slopes	67	*
	Water, miscellaneous	97	!
	Udorthents, loamy (cut and fill land), 0 to 6 percent slopes	563	0.2
W	Water	5,067	1.8
	-   Total	277,000	100.0

<sup>\*</sup> Less than 0.1 percent.

## Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as sites for buildings, highways and other transportation systems, and parks and other recreational facilities; as sites for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

## **Interpretive Ratings**

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

## **Rating Class Terms**

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are not limited, somewhat limited, and very limited. The suitability ratings are expressed as well suited, moderately suited, poorly suited, and unsuited or as good, fair, poor, and very poor.

## **Numerical Ratings**

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

## **Agronomy**

General management needed for crops and for hay and pasture is suggested in this section. The system of land capability classification used by the Natural Resources Conservation Service is explained, the estimated yields of the main crops and hay and pasture plants are listed, prime farmland is defined, and considerations affecting windbreaks and environmental plantings are described. Planners of management systems for individual fields or farms should consider obtaining specific information from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

## **Cropland Management Considerations**

The management concerns affecting the use of the soil map units in the survey area for crops are shown

in table 3. The main concerns in managing nonirrigated cropland are conserving moisture, controlling wind erosion and water erosion, and maintaining soil fertility.

Conserving moisture consists primarily of reducing the evaporation and runoff rates and increasing the water infiltration rate. Applying conservation tillage and conservation cropping systems, farming on the contour, stripcropping, establishing field windbreaks, and leaving crop residue on the surface conserve moisture.

Generally, a combination of several practices is needed to control *wind erosion* and *water erosion*. Conservation tillage, stripcropping, field windbreaks, contour farming, conservation cropping systems, crop residue management, terraces, diversions, and grassed waterways help to prevent excessive soil loss.

Measures that are effective in maintaining *soil* fertility include applying fertilizer, both organic and inorganic, including manure; incorporating crop residue or green manure crops into the soil; and using proper crop rotations. Controlling erosion helps to prevent the loss of organic matter and plant nutrients and thus helps to maintain productivity, although the level of fertility can be reduced even in areas where erosion is controlled. All soils used for nonirrigated crops respond well to applications of fertilizer.

Some of the considerations shown in the table cannot be easily overcome. These are *channels*, *flooding*, *gullies*, and *ponding*.

Additional considerations are as follows:

Lime content, limited available water capacity, limited content of organic matter, potential poor tilth and compaction, and restricted permeability.—These limitations can be minimized by incorporating green manure crops, manure, or crop residue into the soil; applying a system of conservation tillage; and using conservation cropping systems. Also, crops may respond well to additions of phosphate fertilizer to soils that have a high content of lime.

Potential for ground-water contamination.—The proper use of nutrients and pesticides can reduce the risk of ground-water contamination.

Potential for surface-water contamination.—The risk of surface-water contamination can be reduced by the proper use of nutrients and pesticides and by conservation farming practices that reduce the runoff rate.

*Surface crusting.*—This limitation retards seedling development after periods of heavy rainfall.

*Surface rock fragments.*—This limitation causes rapid wear of tillage equipment. It cannot be easily overcome.

Surface stones.—Stones or boulders on or near the surface can hinder normal tillage unless they are removed.

Salt content.—In areas where this is a limitation, only salt-tolerant crops should be grown.

On irrigated soils the main management concerns are efficient water use, nutrient management, control of erosion, pest and weed control, and timely planting and harvesting for a successful crop. An irrigation system that provides optimum control and distribution of water at minimum cost is needed. Overirrigation wastes water, leaches plant nutrients, and causes erosion. Also, it can increase wetness and soil salinity.

## **Explanation of Criteria**

Acid soil.—The pH is less than 6.1.

*Channeled.*—The word "channeled" is included in the map unit name.

*Dense layer.*—The bulk density is 1.80 g/cc or greater within the soil profile.

*Depth to rock.*—The depth to bedrock is less than 40 inches.

*Eroded.*—The word "eroded" is included in the map unit name.

Excessive permeability.—Saturated hydraulic conductivity is 42 micrometers per second or more within the soil profile.

*Flooding.*—Flooding is occasional, frequent, or very frequent.

*Gullied.*—The word "gullied" is included in the map unit name.

High content of organic matter.—The surface layer has more than 20 percent organic matter.

Lime content.—The pH is 7.4 or more in the surface layer, or the wind erodibility group is 4L.

Limited available water capacity.—The available water capacity calculated to a depth of 60 inches or to a root-limiting layer is 6 inches or less.

Limited content of organic matter.—The content of organic matter is 2 percent or less in the surface layer.

*Ponding.*—Ponding duration is assigned to the map unit component. Water is above the surface.

Potential poor tilth and compaction.—The content of clay is 27 percent or more in the surface layer.

Potential for ground-water contamination (by nutrients or pesticides).—The depth to a zone in which the soil moisture status is wet is 4 feet or less, the saturated hydraulic conductivity of any layer is more than 42 micrometers per second, or the depth to bedrock is less than 60 inches.

Potential for surface-water contamination (by nutrients or pesticides).—The map unit component is occasionally, frequently, or very frequently flooded, is subject to ponding, is assigned to hydrologic group C or D and has a slope of more than 2 percent, is assigned to hydrologic group A and has a slope of more than 6 percent, or is assigned to hydrologic

group B, has a slope of 3 percent or more, and has a K factor of more than 0.17.

*Previously eroded.*—The word "eroded" is included in the map unit name.

Restricted permeability.—Saturated hydraulic conductivity is less than 0.42 micrometer per second within the soil profile.

Salt content.—The electrical conductivity is 4 or more in the surface layer or 8 or more within a depth of 30 inches.

*Slope* (equipment limitation).—The slope is more than 15 percent.

Surface crusting.—The content of clay is 27 percent or more and the content of organic matter is 2 percent or less in the surface layer.

Surface rock fragments (equipment limitation).— The terms describing the texture of the surface layer include any rock fragment modifier, except for gravelly, channery, stony, very stony, extremely stony, bouldery, very bouldery, and extremely bouldery.

Surface stones (equipment limitation).—The word "stony" or "bouldery" is included in the description of the surface layer, or 0.01 percent or more of the surface is covered with boulders.

Water erosion.—Either the slope is 6 percent or more, or the slope is more than 3 percent and less than 6 percent and the surface layer is not sandy.

Wet soil moisture status.—A zone in which the soil moisture status is wet is within 2.5 feet of the surface.

Wind erosion.—The wind erodibility group is 1, 2, 3, or 4L.

Hydrologic groups are described under the heading "Water Features." Erosion factors (e.g., K factor) and wind erodibility groups are described under the heading "Physical and Chemical Properties."

# **Crop Yield Estimates**

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 4. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the

proper planting and seeding rates; suitable highyielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

#### **Pasture and Hayland Interpretations**

Under good management, proper grazing is essential for the production of high-quality forage, stand survival, and erosion control. Proper grazing helps plants to maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and renovation also are important management practices.

Yield estimates are often provided in animal unit months (AUM), or the amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about forage yields other than those shown in table 4.

## **Land Capability Classification**

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and

limitations of groups of soils for woodland or for engineering purposes.

In the capability system, soils generally are grouped at three levels—capability class, subclass, and unit (USDA, 1961). These categories indicate the degree and kinds of limitations affecting mechanized farming systems that produce the more commonly grown field crops, such as corn, small grain, cotton, hay, and field-grown vegetables. Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use.

If properly managed, soils in classes 1, 2, 3, and 4 are suitable for the mechanized production of commonly grown field crops and for pasture and woodland. The degree of the soil limitations affecting the production of cultivated crops increases progressively from class 1 to class 4. The limitations can affect levels of production and the risk of permanent soil deterioration caused by erosion and other factors.

Soils in classes 5, 6, and 7 are generally not suited to the mechanized production of commonly grown field crops without special management, but they are suitable for plants that provide a permanent cover, such as grasses and trees. The severity of the soil limitations affecting crops increases progressively from class 5 to class 7.

Areas in class 8 are generally not suitable for crops, pasture, or woodland without a level of management that is impractical. These areas may have potential for other uses, such as recreational facilities and wildlife habitat.

Capability subclasses identify the dominant kind of limitation in the class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless a close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

There are no subclasses in class 1 because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by w, s, or c because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use mainly to pasture, woodland, wildlife habitat, or recreation.

The capability classification of map units in the survey area is given in table 4.

#### **Prime Farmland**

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. The acreage of high-quality farmland is limited, and the U.S. Department of Agriculture recognizes that government at local, State, and Federal levels, as well as individuals, must encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland soils, as defined by the U.S. Department of Agriculture, are soils that are best suited to food, feed, forage, fiber, and oilseed crops. Such soils have properties that favor the economic production of sustained high yields of crops. The soils need only to be treated and managed by acceptable farming methods. An adequate moisture supply and a sufficiently long growing season are required. Prime farmland soils produce the highest yields with minimal expenditure of energy and economic resources, and farming these soils results in the least damage to the environment.

Prime farmland soils may presently be used as cropland, pasture, or woodland or for other purposes. They either are used for food and fiber or are available for these uses. Urban or built-up land, public land, and water areas cannot be considered prime farmland. Urban or built-up land is any contiguous unit of land 10 acres or more in size that is used for such purposes as housing, industrial, and commercial sites, sites for institutions or public buildings, small parks, golf courses, cemeteries, railroad yards, airports, sanitary landfills, sewage treatment plants, and water-control structures. Public land is land not available for farming in National forests, National parks, military reservations, and State parks.

Prime farmland soils commonly receive an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable, and the level of acidity or alkalinity and the content of salts and sodium are acceptable. The soils have few, if any, rocks and are permeable to water and air. They are not excessively erodible or saturated with water for long periods, and they are not frequently flooded during the growing season or are protected from flooding. Slopes range mainly from 0 to 6 percent.

Soils that have a zone high in the profile in which the soil moisture status is wet or soils that are subject to flooding may qualify as prime farmland where these limitations are overcome by drainage measures or flood control. Onsite evaluation is necessary to determine the effectiveness of corrective measures. More information about the criteria for prime farmland can be obtained at the local office of the Natural Resources Conservation Service.

A recent trend in land use has been the conversion of prime farmland to urban and industrial uses. The loss of prime farmland to other uses puts pressure on lands that are less productive than prime farmland.

About 212,427 acres, or nearly 77 percent of the survey area, meets the requirements for prime farmland.

The map units in the survey area that meet the requirements for prime farmland are listed in table 5. This list does not constitute a recommendation for a particular land use. On some soils included in the table, measures that overcome limitations are needed. The need for these measures is indicated in parentheses after the map unit name. The location of each map unit is shown on the soil maps. The soil qualities that affect use and management are described in the section "Soil Map Unit Descriptions."

# Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, and yards from wind and snow. They also protect fruit trees and gardens, and they furnish habitat for wildlife. Several rows of low- and high-growing broadleaf and coniferous trees and shrubs provide the most protection.

Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil. Field windbreaks protect cropland and crops from wind, help to keep snow on the fields, and provide food and cover for wildlife.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Windbreaks are often planted on land that did not originally support trees. Knowledge of how trees perform on such land can be gained only by observing and recording the performance of trees that have been planted and have survived. Many popular windbreak species are not indigenous to the areas in which they are planted.

Each tree or shrub species has certain climatic and physiographic limits. Within these parameters, a tree or shrub may grow well or grow poorly, depending on

the characteristics of the soil. Each tree or shrub has definable potential heights in a given physiographic area and under a given climate. Accurate definitions of potential heights are necessary when a windbreak is planned and designed.

Table 6 shows the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates in this table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from local offices of the Natural Resources Conservation Service or the Cooperative Extension Service or from a nursery.

### Windbreak Suitability Groups

Windbreak suitability groups consist of soils in which the kinds and degrees of the hazards and limitations that affect the survival and growth of trees and shrubs in windbreaks are about the same. The windbreak suitability groups assigned to the soils in the survey area are listed in table 7.

Group 1 consists of soils that are somewhat poorly drained or moderately well drained, are rapidly permeable to moderately slowly permeable, and do not have free carbonates in the upper 20 inches.

Group 1K consists of soils that are somewhat poorly drained or moderately well drained, are rapidly permeable to moderately slowly permeable, and have free carbonates within 20 inches of the surface. These soils may be very slightly saline or slightly saline (the electrical conductivity is 2 to 8).

*Group 2* consists of poorly drained soils that have been artificially drained and do not have free carbonates in the upper 20 inches. Permeability varies.

*Group 2H* consists of very poorly drained soils that have been artificially drained and have more than 16 inches of organic material. Permeability varies.

Group 2K consists of poorly drained or very poorly drained soils that have been artificially drained and have free carbonates within 20 inches of the surface. Permeability varies. These soils may be very slightly saline or slightly saline (the electrical conductivity is 2 to 8).

Group 2W consists of very poorly drained soils that are subject to ponding and have been artificially drained. It includes soils that have an organic surface layer up to 16 inches thick. Permeability varies.

Group 3 consists of soils that are well drained or moderately well drained and are loamy or silty

throughout. Permeability is moderate or moderately slow. These soils do not have free carbonates in the upper 20 inches.

Group 4 consists of soils that are well drained, moderately well drained, or somewhat poorly drained and have a silty or loamy surface layer and a clayey subsoil. Permeability is slow or very slow.

Group 4C consists of soils that are well drained, moderately well drained, or somewhat poorly drained and have a clayey surface layer and subsoil. Permeability is slow or very slow.

Group 4F consists of soils that are well drained, moderately well drained, or somewhat poorly drained and have a substratum of dense till. Permeability is slow or very slow.

Group 5 consists of soils that are excessively drained to moderately well drained and have a moderate available water capacity. These soils are dominantly fine sandy loam or sandy loam, but some are sandy in the upper part and loamy in the lower part.

Group 6D consists of excessively drained to moderately well drained, loamy soils that have bedrock at a depth of 20 to 40 inches. These soils have a low or moderate available water capacity.

Group 6G consists of excessively drained to moderately well drained soils that are loamy in the upper part and have sand or sand and gravel at a depth of 20 to 40 inches. These soils have a low or moderate available water capacity.

Group 7 consists of excessively drained to well drained soils that are dominantly loamy fine sand or coarser textured and are shallow to sand or to sand and gravel. These soils have a low available water capacity.

*Group 8* consists of excessively drained to well drained, loamy soils that have free carbonates within 20 inches of the surface.

*Group 9W* consists of soils that are somewhat poorly drained, poorly drained, or very poorly drained and are moderately saline (the electrical conductivity is 8 to 16).

Group 10 consists of soils or miscellaneous areas that generally are not suitable for windbreaks. One or more characteristics, such as soil depth, texture, wetness, available water capacity, or slope, limit the planting, survival, or growth of trees and shrubs.

## Recreation

The soils of the survey area are rated in tables 8a and 8b according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent

to which the soils are limited by all of the soil features that affect the recreational uses.

Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected.

Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected.

Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in the tables can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock

or a cemented pan are the main concerns affecting the development of camp areas.

The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a zone in which the soil moisture status is wet, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a zone in which the soil moisture status is wet, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a zone in which the soil moisture status is wet, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a zone in which the soil moisture status is wet, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a zone in which the soil moisture status is wet, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a zone in which the soil moisture status is wet; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a zone in which the soil moisture status is wet, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

#### Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. If food, cover, or water is missing, inadequate, or inaccessible, wildlife will be scarce or will not inhabit the area.

If the soils have potential for habitat development, wildlife habitat can be created or improved by planting appropriate vegetation, properly managing the existing plant cover, and fostering the natural establishment of desirable plants.

In table 9, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be

established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

*Grain and seed crops* are domestic grains and seed-producing herbaceous plants used by wildlife. Examples are corn, soybeans, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes planted for wildlife food and cover. Examples are bromegrass, timothy, orchardgrass, clover, alfalfa, wheatgrass, and birdsfoot trefoil.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds, that provide food and cover for wildlife. Examples are bluestems, indiangrass, blueberry, goldenrod, lambsquarters, dandelions, blackberry, ragweed, wheatgrass, and nightshade.

The major soil properties affecting the growth of grain and forage crops and wild herbaceous plants are depth of the root zone, texture of the surface layer, the amount of water available to plants, wetness, salinity, and flooding. The length of the growing season also is important.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage that wildlife eat. Examples are oak, poplar, box elder, birch, maple, green ash, willow, and American elm.

Coniferous plants are cone-bearing trees, shrubs, or ground cover that provide habitat or supply food in the form of browse, seed, or fruit-like cones. Examples are pine, spruce, cedar, and tamarack.

The major soil properties affecting the growth of hardwood and coniferous trees and shrubs are depth of the root zone, the amount of water available to plants, and wetness.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Wetland plants produce food or cover for wetland wildlife. Examples of these plants are smartweeds, wild millet, rushes, sedges, bulrushes, wild rice,

arrowhead, waterplantain, cattail, prairie cordgrass, bluejoint grass, asters, and beggarticks.

The major soil properties affecting wetland plants are texture of the surface layer, wetness, acidity or alkalinity, and slope.

Shallow water areas have an average depth of less than 5 feet. They are useful as habitat for some wildlife species. They are naturally wet areas or are created by dams, levees, or water-control measures in marshes or streams. Examples are waterfowl feeding areas, wildlife watering developments, beaver ponds, and other wildlife ponds.

The major soil properties affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, and shrubs. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The wildlife attracted to these areas include ring-necked pheasant, meadowlark, field sparrow, killdeer, cottontail rabbit, and red fox.

Habitat for woodland wildlife consists of areas of hardwoods or conifers or a mixture of these and associated grasses, legumes, and wild herbaceous plants. The wildlife attracted to this habitat include wild turkey, ruffed grouse, thrushes, woodpeckers, owls, tree squirrels, raccoon, and white-tailed deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas, bogs, or flood plains that support water-tolerant plants. The wildlife attracted to this habitat include ducks, geese, herons, bitterns, rails, kingfishers, muskrat, otter, mink, and beaver.

# **Engineering**

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, agricultural waste management, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply

only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a zone in which the soil moisture status is wet, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, linear extensibility, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; plan detailed onsite investigations of soils and geology; evaluate alternative sites for waste management facilities; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

# **Building Site Development**

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 10a and 10b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development.

Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected.

Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected.

Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a zone in which the soil moisture status is wet, ponding, flooding, subsidence,

linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a zone in which the soil moisture status is wet, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a zone in which the soil moisture status is wet, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a zone in which the soil moisture status is wet, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a zone in which the soil moisture status is wet, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a zone in which the soil moisture status is wet, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense

layers influence the ease of digging, filling, and compacting. Depth to a zone in which the soil moisture status is wet, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to a zone in which the soil moisture status is wet, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a zone in which the soil moisture status is wet; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a zone in which the soil moisture status is wet, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

# **Agricultural Waste Management**

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

Tables 11a and 11b show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher

concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the tables are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye

used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, depth to a zone in which the soil moisture status is wet, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a zone in which the soil moisture status is wet, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a zone in which the soil moisture status is wet, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood that wind

erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a zone in which the soil moisture status is wet, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a zone in which the soil moisture status is wet, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a zone in which the soil moisture status is wet, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

Overland flow of wastewater is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, permeability, depth to a zone in which the soil moisture status is wet, ponding, flooding, depth to bedrock or a cemented pan, stones, and cobbles affect design and construction. Permanently frozen soils are unsuitable for waste treatment.

Rapid infiltration of wastewater is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. Depth to a zone in which the soil moisture status is wet, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Permeability and reaction affect performance. Permanently frozen soils are unsuitable for waste treatment.

Slow rate treatment of wastewater is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water may percolate to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, depth to a zone in which the soil moisture status is wet, ponding, available water capacity, permeability, depth to bedrock or a cemented pan, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a zone in which the soil moisture status is wet, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

#### **Construction Materials**

Tables 12a and 12b give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 12a, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of good or fair means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The soils are rated *good, fair, or poor* as potential sources of reclamation material, roadfill, and topsoil. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, or topsoil. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These

properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In table 12b, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a zone in which the soil moisture status is wet, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a zone in which the soil moisture status is wet, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a zone in which the soil moisture status is wet, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

## Water Management

Table 13 gives information on the soil properties and site features that affect water management. The

degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses.

Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected.

Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected.

Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A seasonal zone in which the soil moisture status is wet affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent zone in which the soil moisture status is wet. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent zone in which the soil moisture status is wet, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Table 3.--Cropland Management Considerations

(See text for a description of the considerations listed in this table)

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	
GP:		
Pits, gravel.		
Udipsamments.		 
L5A:		
Delft, overwash	50	Potential for ground-water contamination   Water erosion   Wet soil moisture status
Delft	40	   Potential for ground-water contamination   Wet soil moisture status
Glencoe	5	Ponding
		Potential poor tilth and compaction   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status
Terril	5	Potential for ground-water contamination   Potential for surface-water contamination   Water erosion   Wet soil moisture status
L13A:		 
Klossner, drained	80	High content of organic matter   Ponding   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status   Wind erosion
Mineral soil, drained	15	Ponding   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status
Houghton, drained	5	High content of organic matter   Ponding   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status   Wind erosion
L14A:		
Houghton, drained	80	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Klossner, drained		High content of organic matter   Ponding   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status   Wind erosion

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	1
L14A:		 
Mineral soil, drained	10	Ponding
, , , , , , , , , , , , , , , , , , , ,		Potential for ground-water contamination
i		Potential for surface-water contamination
I		Wet soil moisture status
L15A:		
Klossner, ponded	30	High content of organic matter
		Ponding   Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
i		İ
Okoboji, ponded	30	Ponding
		Potential poor tilth and compaction
		Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
Glencoe, ponded	30	Ponding
		Potential poor tilth and compaction
i		Potential for ground-water contamination
I		Potential for surface-water contamination
		Wet soil moisture status
***************************************	10	
Houghton, ponded	10	High content of organic matter   Ponding
		Potential for ground-water contamination
i		Potential for surface-water contamination
i		Wet soil moisture status
İ		İ
L16A:		
Muskego, ponded	30	High content of organic matter
		Ponding
		Potential for ground-water contamination   Potential for surface-water contamination
		Wet soil moisture status
i		į
Blue Earth, ponded	30	High content of organic matter
		Lime content
		Ponding
		Potential for ground-water contamination   Potential for surface-water contamination
		Wet soil moisture status
i		
Houghton, ponded	30	High content of organic matter
İ		Ponding
I		Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
Klossner, ponded	10	High content of organic matter
KIOSSHEL, POHGEG	10	Ponding
i		Potential for ground-water contamination
i		Potential for surface-water contamination
İ		Wet soil moisture status
I		ļ.
L26B:	0.5	
Shorewood	90	Potential poor tilth and compaction
		Potential for ground-water contamination  Potential for surface-water contamination
· ·		Restricted permeability
i		Water erosion
i		Wet soil moisture status
İ		
l l		I

Table 3.--Cropland Management Considerations--Continued

Map symbol of map considerations    Component name	
L26B:  Good Thunder	
Good Thunder	
Good Thunder	
Good Thunder	
Minnetonka	
Minnetonka	ation
Minnetonka	nation
L36A: Hamel, overwash	
L36A: Hamel, overwash	
L36A:  Hamel, overwash	
L36A:  Hamel, overwash	acion
Hamel, overwash	
Water erosion   Wet soil moisture status	
Hamel	ation
Hamel	
Wet soil moisture status  Terril	
Wet soil moisture status  Terril	
Terril	ation
Potential for surface-water contamination   Water erosion	
Potential for surface-water contamination   Water erosion	a+ian
Glencoe	
Potential for ground-water contamin   Potential for surface-water contamin   Wet soil moisture status	
Potential for ground-water contamin   Potential for surface-water contamin   Wet soil moisture status	
L40B:  Angus	
Wet soil moisture status	ation
L40B:  Angus	nation
Angus	
Angus	
Potential for surface-water contaming   Water erosion	ation
Water erosion	
Potential for ground-water contamin   Potential for surface-water contami	
Potential for ground-water contamin   Potential for surface-water contami	
Potential for surface-water contami	
' '	
	nation
Water erosion	
Wet soil moisture status	
Lerdal 10   Acid soil	
Potential poor tilth and compaction	
Potential for ground-water contamin	
Potential for surface-water contami	nation
Restricted permeability	
Wet soil moisture status	
Managha	
Mazaska	
Wet soil moisture status	acion
L41C2:	
Lester, eroded 45   Potential for surface-water contami	nation
Previously eroded	
Water erosion	
Williams and d	
Kilkenny, eroded 40 Potential poor tilth and compaction Potential for ground-water contamin	
Potential for ground-water contamin	
Previously eroded	
Water erosion	
į į	
Terril 10   Potential for ground-water contamin	
Potential for surface-water contami	ation
Previously eroded	
Water erosion	

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	<u> </u>
L41C2:	I I	 
Derrynane	5       	Potential poor tilth and compaction Potential for ground-water contamination Previously eroded Wet soil moisture status
L41D2:	İ	
Lester, eroded	45     	Slope   Potential for surface-water contamination   Previously eroded   Water erosion
Kilkenny, eroded	35         	Slope   Potential poor tilth and compaction   Potential for ground-water contamination   Potential for surface-water contamination   Previously eroded   Water erosion
Terril	   10   	Potential for ground-water contamination   Potential for surface-water contamination   Previously eroded   Water erosion
Derrynane	   5     	Potential poor tilth and compaction   Potential for ground-water contamination   Previously eroded   Wet soil moisture status
Ridgeton	   5   	Potential for surface-water contamination   Previously eroded   Water erosion
L41E: Lester	   45 	   Slope   Potential for surface-water contamination   Water erosion
Kilkenny	   40   	Slope   Potential poor tilth and compaction   Potential for ground-water contamination   Potential for surface-water contamination   Water erosion
Terril	   5 	Potential for ground-water contamination   Potential for surface-water contamination   Water erosion
Derrynane	   5 	Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
Ridgeton	   5   	   Slope   Potential for surface-water contamination   Water erosion
L48A:	l I	] 
Derrynane, overwash	   50     	Potential poor tilth and compaction   Potential for ground-water contamination   Water erosion   Wet soil moisture status
Derrynane	   40   	   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status 

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	
L48A:		
Glencoe	5	Ponding
		Potential poor tilth and compaction
		Potential for ground-water contamination
	İ	Potential for surface-water contamination
	İ	Wet soil moisture status
	İ	
Terril	5	Potential for ground-water contamination
	ĺ	Potential for surface-water contamination
	İ	Water erosion
	İ	
L49A:	İ	
Klossner, surface drained	65	High content of organic matter
-	İ	Ponding
	İ	Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
		Wind erosion
Klossner, drained	20	High content of organic matter
-	İ	Ponding
	İ	Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
		Wind erosion
Mineral soil, drained	15	Ponding
		Potential for ground-water contamination
		Potential for surface-water contamination
	İ	Wet soil moisture status
L50A:	İ	
Houghton, surface drained	40	High content of organic matter
		Ponding
	ĺ	Potential for ground-water contamination
	İ	Potential for surface-water contamination
	ĺ	Wet soil moisture status
	ĺ	Wind erosion
Muskego, surface drained	40	High content of organic matter
		Ponding
		Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
		Wind erosion
Klossner, drained	10	High content of organic matter
		Ponding
		Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
		Wind erosion
Mineral soil, drained	10	Ponding
		Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
L51C2:		
Gladek, eroded	80	Potential for surface-water contamination
		Previously eroded
		Water erosion

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	
L51C2: Barrington	10   	Potential for ground-water contamination   Potential for surface-water contamination   Previously eroded   Water erosion   Wet soil moisture status
Lester, eroded	5   5	Potential for surface-water contamination   Previously eroded   Water erosion
Madelia	5   	Potential poor tilth and compaction   Potential for ground-water contamination   Previously eroded   Previously eroted   Pre
L56A:		İ
Muskego, frequently flooded	45   	Flooding   High content of organic matter   Ponding   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status
Klossner, frequently flooded	45   	Flooding
Suckercreek, frequently flooded	10	Flooding
L57A:		 
Medo, drained	80	Excessive permeability   High content of organic matter   Ponding   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status   Wind erosion
Mineral soil, drained	15	Excessive permeability   Ponding   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status   Wind erosion
Houghton, drained	5	High content of organic matter   Ponding   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status   Wind erosion

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	<u>i</u>
L63A:		
Klossner	85	High content of organic matter
		Ponding   Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
İ		Wind erosion
_		
Lura	10	Ponding   Potential poor tilth and compaction
		Potential for ground-water contamination
i		Potential for surface-water contamination
İ		Restricted permeability
		Wet soil moisture status
Description.	_	I Time content
Brownton	5	Lime content   Potential poor tilth and compaction
		Potential for ground-water contamination
		Restricted permeability
		Wet soil moisture status
L64A:		
Tadkee	50	   Excessive permeability
144100		Potential for ground-water contamination
		Wet soil moisture status
		Wind erosion
Tadhaa danmagai anal	36	Errangairra normanhilitar
Tadkee, depressional	36	Excessive permeability   High content of organic matter
		Ponding
		Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
		Wind erosion
Better drained soil	8	Excessive permeability
İ		Potential for ground-water contamination
		Wet soil moisture status
		Wind erosion
Granby	4	   Excessive permeability
2	-	Limited available water capacity
İ		Ponding
		Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status   Wind erosion
		wind erosion
Less sandy soil	2	Excessive permeability
j		Lime content
		Potential for ground-water contamination
		Wet soil moisture status   Wind erosion
L73A:		İ
Blue Earth	80	High content of organic matter
		Lime content
		Ponding   Potential for ground-water contamination
· ·		Potential for ground-water contamination   Potential for surface-water contamination
j		Wet soil moisture status
İ		

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	
T 7 2 3 -		
L73A: Belleville	10	   Excessive permeability   Potential for ground-water contamination   Wet soil moisture status   Wind erosion
Canisteo	10	Lime content   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status   Wind erosion
L74A:		 
Estherville	87	Excessive permeability   Limited available water capacity   Potential for ground-water contamination   Wind erosion
Hawick	10	Excessive permeability   Limited available water capacity   Potential for ground-water contamination   Water erosion
Biscay	3	   Excessive permeability   Potential for ground-water contamination   Wet soil moisture status 
L75B: Barrington	85	   Potential for ground-water contamination   Potential for surface-water contamination   Water erosion   Wet soil moisture status
Gladek	10	   Potential for surface-water contamination   Water erosion
Madelia	5	   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status 
L76B:		İ
Dickinson	80	Excessive permeability   Limited content of organic matter   Potential for ground-water contamination   Potential for surface-water contamination   Water erosion   Wind erosion
Litchfield	13	Excessive permeability   Potential for ground-water contamination   Wet soil moisture status   Wind erosion
Darfur	5	   Potential for ground-water contamination   Wet soil moisture status
Clarion	2	Potential for ground-water contamination   Potential for surface-water contamination   Water erosion

Table 3.--Cropland Management Considerations--Continued

	1 5-4	
Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	
L77A:		
Brownton	75	Lime content
	i	Potential poor tilth and compaction
	i	Potential for ground-water contamination
	i	Restricted permeability
	<u> </u>	Wet soil moisture status
	! !	Wet Boll moistule status
Marna	I I 15	   Detential neer tilth and demonstica
mariia	1 13	Potential poor tilth and compaction
		Potential for ground-water contamination
		Wet soil moisture status
_		
Lura	:	Ponding
	:	Potential poor tilth and compaction
		Potential for ground-water contamination
		Potential for surface-water contamination
		Restricted permeability
		Wet soil moisture status
L78A:		
Canisteo	65	Lime content
	ĺ	Potential poor tilth and compaction
	İ	Potential for ground-water contamination
	i	Wet soil moisture status
	i	Wind erosion
	i	
Crippin	10	Lime content
CIIPPIII	1 10	Potential for ground-water contamination
	I I	Wet soil moisture status
	! !	Wet soil moisture status   Wind erosion
	 	wind erosion
g1	10	l postan
Glencoe	10	Ponding
		Potential poor tilth and compaction
	!	Potential for ground-water contamination
	!	Potential for surface-water contamination
		Wet soil moisture status
Canisteo, depressional	5	Lime content
		Ponding
		Potential poor tilth and compaction
		Potential for ground-water contamination
		Potential for surface-water contamination
	1	Wet soil moisture status
	1	Wind erosion
	ĺ	
Harps	5	Lime content
_	i	Potential poor tilth and compaction
	i	Potential for ground-water contamination
	i	Wet soil moisture status
	i	Wind erosion
	i	
Webster	ı İ 5	Potential for ground-water contamination
	, ,	Wet soil moisture status
	I I	HOS BOIT MOTBERTS BEREIRS
L79B:	I I	I I
Clarion	   65	
CTat 1011	•	Potential for ground-water contamination
	!	Potential for surface-water contamination
	l '	Water erosion
Clarion, eroded	•	Potential for ground-water contamination
	!	Potential for surface-water contamination
	!	Water erosion
	l	

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	
L79B:	 	] 
Nicollet	8   	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Webster	2	Potential for ground-water contamination   Wet soil moisture status
L80C2:		 
Lester, eroded	75	Potential for surface-water contamination   Previously eroded   Water erosion
Terril	10 	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Hamel	5   	Potential for ground-water contamination   Previously eroded   Water erosion   Wet soil moisture status
Reedslake	5   	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Storden, eroded	5	Lime content   Limited content of organic matter   Potential for surface-water contamination   Previously eroded   Water erosion   Wind erosion
L80D2:		] ]
Lester, eroded	75   	Slope   Potential for surface-water contamination   Previously eroded   Water erosion
Ridgeton	   10 	Potential for surface-water contamination   Previously eroded   Water erosion
Storden, eroded	8	Slope
Terril	5   	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wet soil moisture status
Hamel	2   2 	Potential for ground-water contamination Previously eroded Water erosion Wet soil moisture status

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	
L81A:		
Cordova	85 	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Le Sueur	10	Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
Rolfe	5	   Ponding   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status
L82A:		
Marna	85 	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Barbert	10	Ponding   Potential for ground-water contamination   Potential for surface-water contamination   Restricted permeability   Wet soil moisture status
Guckeen	5   5 	Potential poor tilth and compaction   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status
L83A:		! 
Webster	65	Potential for ground-water contamination Wet soil moisture status
Glencoe	15	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Canisteo	10	Lime content   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status   Wind erosion
Nicollet	10	   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
L84A:	 	 
Glencoe	80   	Ponding   Potential poor tilth and compaction   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status
Very poorly drained muck	İ	High content of organic matter   Ponding   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status   Wind erosion

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	
-04-		
L84A: Canisteo	   5   	Lime content   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
Harps	   5     	Wind erosion       Lime content     Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status   Wind erosion
L85A:	i I	
Nicollet	85   	Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
Clarion	   10 	Potential for ground-water contamination   Potential for surface-water contamination   Water erosion
Webster	   5 	Potential for ground-water contamination     Wet soil moisture status
L86A:	 	I 
Madelia	90   	Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
Okoboji	   5     	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Spicer	   3     	Lime content   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status   Wind erosion
Kingston	   2   	Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
L87A:	İ	
Kingston	   85   	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Truman	   10   	Potential for ground-water contamination   Potential for surface-water contamination   Water erosion
Madelia	   5   	   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status 

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	
L88A:	 	 
Lura	j 	Ponding   Potential poor tilth and compaction   Potential for ground-water contamination   Potential for surface-water contamination   Restricted permeability   Wet soil moisture status
Brownton		   Lime content   Potential poor tilth and compaction   Potential for ground-water contamination   Restricted permeability   Wet soil moisture status
Organic soil	 	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Restricted permeability Wet soil moisture status Wind erosion
L89A:	! 	[ 
Guckeen	82     	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Marna	   10   	Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
Clarion clay loam	   8   	Potential for ground-water contamination Potential for surface-water contamination Water erosion
L90A:	! 	
Le Sueur	75   75 	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Cordova	13 	Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
Reedslake	   12   	   Potential for ground-water contamination   Potential for surface-water contamination   Water erosion
L91A:	! 	
Mazaska	İ	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Lerdal		Acid soil     Potential poor tilth and compaction     Potential for ground-water contamination     Potential for surface-water contamination     Restricted permeability     Wet soil moisture status
		Restricted permeability

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	
I		
L91A:		
Rolfe	5	Ponding
		Potential for ground-water contamination
		Potential for surface-water contamination   Wet soil moisture status
		wet soil moisture status
L92A:		 
Darfur	78	Potential for ground-water contamination
		Wet soil moisture status
i		į
Fieldon	10	Excessive permeability
		Lime content
		Potential for ground-water contamination
		Wet soil moisture status
		Wind erosion
Litchfield	5	
riccurieid	5	Excessive permeability   Potential for ground-water contamination
		Wet soil moisture status
		Wind erosion
i		
Webster	5	Potential for ground-water contamination
		Wet soil moisture status
_		
Dassel	2	Excessive permeability
		Ponding
		Potential for ground-water contamination   Potential for surface-water contamination
		Wet soil moisture status
i		New Boll Molbeare Beacab
L93A:		İ
Muskego	82	High content of organic matter
I		Ponding
		Potential for ground-water contamination
		Potential for surface-water contamination
		Restricted permeability
		Wet soil moisture status   Wind erosion
		Wild elosion
Blue Earth	10	High content of organic matter
i		Lime content
İ		Ponding
I		Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
Mineral soil, drained	5	   Ponding
mineral soil, drained	5	Potential for ground-water contamination
i		Potential for surface-water contamination
		Wet soil moisture status
i		İ
Belleville	3	Excessive permeability
		Potential for ground-water contamination
<u> </u>		Wet soil moisture status
		Wind erosion
L94A:		1
Lowlein	75	Potential for ground-water contamination
	, ,	Wet soil moisture status
i		Wind erosion
i		İ
Linder	15	Excessive permeability
		Potential for ground-water contamination
I		Wet soil moisture status
I		

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	
L94A: Dickinson	8   	   Excessive permeability   Limited content of organic matter   Potential for ground-water contamination   Potential for surface-water contamination   Water erosion
		Wind erosion
Darfur	   2 	   Potential for ground-water contamination   Wet soil moisture status 
L95E:	ĺ	
Hawick		Slope   Excessive permeability   Limited available water capacity   Potential for ground-water contamination   Potential for surface-water contamination   Water erosion
Estherville		Slope   Excessive permeability   Limited available water capacity   Potential for ground-water contamination   Potential for surface-water contamination   Water erosion   Wind erosion
Tomall	   10 	   Excessive permeability   Potential for ground-water contamination
L96B:		 
Estherville	55	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Hawick	35	Excessive permeability   Limited available water capacity   Potential for ground-water contamination   Water erosion
Tomall	8	   Excessive permeability   Potential for ground-water contamination
Biscay	2   	   Excessive permeability   Potential for ground-water contamination   Wet soil moisture status 
L97C:	İ	
Hawick		Excessive permeability   Limited available water capacity   Potential for ground-water contamination   Potential for surface-water contamination   Water erosion
Estherville		Excessive permeability   Limited available water capacity   Potential for ground-water contamination   Potential for surface-water contamination   Water erosion   Wind erosion

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	<u> </u>
L97C:	10	 
Tomall	10   	Excessive permeability   Potential for ground-water contamination 
L98A:		
Crippin	50   	Lime content   Potential for ground-water contamination   Wet soil moisture status   Wind erosion
Nicollet	40	   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
Canisteo	5	Lime content   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status   Wind erosion
Clarion	5	Potential for ground-water contamination   Potential for surface-water contamination   Water erosion
L99B:		
Clarion	62 	Potential for ground-water contamination   Potential for surface-water contamination   Water erosion
Swanlake	25	   Lime content   Potential for ground-water contamination   Potential for surface-water contamination   Water erosion   Wind erosion
Nicollet	10	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Webster	   3 	   Potential for ground-water contamination   Wet soil moisture status
L100B:		
Clarion	45 	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Estherville	İ	Excessive permeability   Limited available water capacity   Potential for ground-water contamination   Potential for surface-water contamination   Water erosion   Wind erosion
Lowlein		Excessive permeability   Potential for ground-water contamination   Wet soil moisture status   Wind erosion
Nicollet	5	   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status 

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	
L100B:	_	
Swanlake	5	Lime content
		Potential for ground-water contamination   Potential for surface-water contamination
		Water erosion
		Wind erosion
Webster	5	Potential for ground-water contamination
		Wet soil moisture status
L101C2:		
Omsrud, eroded	40	Potential for surface-water contamination
		Previously eroded
		Water erosion
Hawick	30	   Excessive permeability
nawion		Limited available water capacity
		Potential for ground-water contamination
		Potential for surface-water contamination
		Previously eroded
		Water erosion
Storden, eroded	20	Lime content
		Limited content of organic matter   Potential for surface-water contamination
		Previously eroded
		Water erosion
		Wind erosion
Delft	5	Potential for ground-water contamination
		Previously eroded
		Wet soil moisture status
Terril	5	   Potential for ground-water contamination
161111		Potential for surface-water contamination
		Previously eroded
		Water erosion
L101D2:		
Omsrud, eroded	40	Slope
		Potential for surface-water contamination
		Previously eroded   Water erosion
		Water erosion
Hawick	25	Slope
		Excessive permeability
		Limited available water capacity
		Potential for ground-water contamination
		Potential for surface-water contamination
		Previously eroded
		Water erosion
Storden, eroded	20	   Slope
		Lime content
		Limited content of organic matter
		Potential for surface-water contamination
		Previously eroded
		Water erosion
		Wind erosion
Didaston		
Ridgeton	6	Potential for surface-water contamination   Previously eroded
		Freviously eroded   Water erosion
		•

Table 3.--Cropland Management Considerations--Continued

Man cymbol	I Pa+	Cropland management
Map symbol and	Pct. of map	Cropland management considerations
component name	unit	
		]
L101D2:	ĺ	İ
Delft	5	Potential for ground-water contamination
		Previously eroded
	 	Wet soil moisture status
Terril	   4	Potential for ground-water contamination
	ĺ	Potential for surface-water contamination
	ĺ	Previously eroded
		Water erosion
	l I	Wet soil moisture status
L102C2:	] 	! 
Omsrud, eroded	45	Potential for surface-water contamination
	1	Previously eroded
		Water erosion
Storden, eroded	l l 25	   Lime content
Storden, eroded	] 23 	Limited content of organic matter
		Potential for surface-water contamination
	ĺ	Previously eroded
		Water erosion
	l I	Wind erosion
Omsrud	l l 15	   Potential for surface-water contamination
		Previously eroded
	ĺ	Water erosion
Terril	10	Potential for ground-water contamination   Potential for surface-water contamination
	 	Previously eroded
		Water erosion
	1	<u> </u>
Delft	5	Potential for ground-water contamination
	 	Previously eroded   Wet soil moisture status
	] 	Wet Boll moisture status
L102D2:	ĺ	İ
Omsrud, eroded	45	Slope
		Potential for surface-water contamination
	 	Previously eroded   Water erosion
	] <b>[</b>	Water Cropion
Storden, eroded	20	Slope
	İ	Lime content
		Limited content of organic matter   Potential for surface-water contamination
	 	Previously eroded
	] 	Water erosion
	ĺ	Wind erosion
_		
Omsrud	15 	Slope
	) 	Potential for surface-water contamination   Previously eroded
	ĺ	Water erosion
	İ	İ
Ridgeton	8	Potential for surface-water contamination
	 	Previously eroded   Water erosion
	1 <b>I</b>	water erosion
Delft	i   6	Potential for ground-water contamination
	1	Previously eroded
		Wet soil moisture status
	l	I

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	<u> </u>
	l	
L102D2: Terril	   6   	Potential for ground-water contamination   Potential for surface-water contamination   Previously eroded   Water erosion
	 	Wet soil moisture status
L103A:	 	! 
Fieldon	50     	Excessive permeability   Lime content   Potential for ground-water contamination   Wet soil moisture status   Wind erosion
Canisteo	35       	Lime content   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status   Wind erosion
Darfur	   10 	Potential for ground-water contamination   Wet soil moisture status
Glencoe	   5     	Ponding   Potential poor tilth and compaction   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status
L105C2:	İ	
Lester, eroded	45   	Potential for surface-water contamination Previously eroded Water erosion
Hawick	35       	Excessive permeability   Limited available water capacity   Potential for ground-water contamination   Potential for surface-water contamination   Previously eroded   Water erosion
Terril	   10   	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Hamel	   5 	Potential for ground-water contamination   Previously eroded   Wet soil moisture status
Storden, eroded	İ	Lime content   Limited content of organic matter   Potential for surface-water contamination   Previously eroded   Water erosion   Wind erosion
L105D2: Lester, eroded	   45   	   Slope   Potential for surface-water contamination   Previously eroded   Water erosion

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	<u> </u>
		Į.
L105D2: Hawick	35	Slope
Ridgeton	8	Potential for surface-water contamination   Previously eroded   Water erosion
Hamel	5	Potential for ground-water contamination   Previously eroded   Wet soil moisture status
Storden, eroded	5	Slope   Lime content   Limited content of organic matter   Potential for surface-water contamination   Previously eroded   Water erosion   Wind erosion
Terril	2	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wet soil moisture status
L106C2:		
Lester, eroded	62	Potential for surface-water contamination   Previously eroded   Water erosion
Storden, eroded	20	Lime content   Limited content of organic matter   Potential for surface-water contamination   Previously eroded   Water erosion   Wind erosion
Terril	10	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Hamel	5	Potential for ground-water contamination   Previously eroded   Wet soil moisture status
Reedslake	3	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
L106D2: Lester, eroded	62	   Slope   Potential for surface-water contamination   Previously eroded   Water erosion

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	<u> </u>
L106D2:		 
Storden, eroded	20	   Slope
·		Lime content
		Limited content of organic matter
		Potential for surface-water contamination
		Previously eroded
		Water erosion   Wind erosion
		wind erosion
Ridgeton	10	Potential for surface-water contamination
		Previously eroded
		Water erosion
manual 1	_	 
Terril	5	Potential for ground-water contamination   Potential for surface-water contamination
		Previously eroded
		Water erosion
		Wet soil moisture status
Hamel	3	Potential for ground-water contamination   Previously eroded
		Wet soil moisture status
L107A:		
Canisteo	50	Lime content
		Potential poor tilth and compaction   Potential for ground-water contamination
		Wet soil moisture status
		Wind erosion
		İ
Glencoe	35	Ponding
		Potential poor tilth and compaction   Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
		[
Harps	10	Lime content
		Potential poor tilth and compaction   Potential for ground-water contamination
		Wet soil moisture status
		Wind erosion
Canisteo, depressional	3	Lime content   Ponding
		Potential poor tilth and compaction
		Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
		Wind erosion
Crippin	2	   Lime content
		Potential for ground-water contamination
		Wet soil moisture status
		Wind erosion
L108A:		 
Cordova	65	   Potential poor tilth and compaction
		Potential for ground-water contamination
		Wet soil moisture status
D-16-	20	   Panding
Rolfe	30	Ponding   Potential for ground-water contamination
	] 	Potential for surface-water contamination
		Wet soil moisture status

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	<u> </u>
		ļ
L108A:	   5	
Le Sueur	5   	Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
		wet soil moisture status
L109A:		
Marna	65 	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Barbert	   30 	   Ponding   Potential for ground-water contamination
		Potential for surface-water contamination Restricted permeability Wet soil moisture status
Guckeen	5   	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
71100		
Lester	l l 50	   Slope
		Potential for surface-water contamination   Water erosion
Ridgeton	   30	   Slope
		Potential for surface-water contamination   Water erosion
Cokato	10	Slope   Potential for surface-water contamination
		Water erosion
Belview	6	Slope
		Lime content   Potential for surface-water contamination
		Water erosion   Wind erosion
Hame1	2	Potential for ground-water contamination
		Water erosion   Wet soil moisture status
Terril	   2 	Potential for ground-water contamination   Potential for surface-water contamination   Water erosion
L110F:		
Lester	55 	Slope   Potential for surface-water contamination
	 	Water erosion
Ridgeton	30	Slope   Potential for surface-water contamination
	 	Water erosion
Cokato	   8	   Slope
		Potential for surface-water contamination
	 	Water erosion
	I	I

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	i I
		<u> </u>
L110F:		
Belview	4	Slope
201110	- i	Lime content
		Potential for surface-water contamination
	 	Water erosion
	l i	Wind erosion
		wind erosion
Terril	2	Potential for ground-water contamination
		Potential for surface-water contamination
		Water erosion
Hamel	1	Potential for ground-water contamination
		Water erosion
		Wet soil moisture status
		İ
L111A:	İ	İ
Nicollet	85	Potential poor tilth and compaction
	1	Potential for ground-water contamination
	 	Wet soil moisture status
	l I	Wet soil moisture status
Glamian	l I 10	
Clarion	10	Potential for ground-water contamination
		Potential for surface-water contamination
		Water erosion
Webster	5	Potential for ground-water contamination
		Wet soil moisture status
L112A:		
Webster	85	Potential for ground-water contamination
	İ	Wet soil moisture status
Glencoe	10	Ponding
02011000	<del>-</del>	Potential poor tilth and compaction
	 	Potential for ground-water contamination
	l i	Potential for surface-water contamination
		•
		Wet soil moisture status
	_	
Nicollet	5	Potential poor tilth and compaction
		Potential for ground-water contamination
		Wet soil moisture status
L113B:		
Reedslake	75	Potential for ground-water contamination
		Potential for surface-water contamination
		Water erosion
	İ	i I
Le Sueur	10	Potential poor tilth and compaction
		Potential for ground-water contamination
		Wet soil moisture status
	 	Wet soil moistule status
Reedslake, eroded	l l 10	Potential for ground-water contamination
Reedslake, eloded	1 10	:
		Potential for surface-water contamination
		Water erosion
Cordova	5	Potential poor tilth and compaction
		Potential for ground-water contamination
		Wet soil moisture status
L114A:		
Hanlon, rarely flooded	85	Potential for ground-water contamination
	İ	Wet soil moisture status
	i	Wind erosion
	! 	
	ı	I

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management considerations
and component name	of map unit	considerations
Component name		<u> </u>
L114A:		
Coland, occasionally flooded	10	Flooding   Potential poor tilth and compaction   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status
Minneopa, rarely flooded	5	Excessive permeability   Limited available water capacity   Potential for ground-water contamination   Wet soil moisture status   Wind erosion
L115A:	İ	 
Brownton	55	Lime content   Potential poor tilth and compaction   Potential for ground-water contamination   Restricted permeability   Wet soil moisture status
Lura	35	Ponding   Potential poor tilth and compaction   Potential for ground-water contamination   Potential for surface-water contamination   Restricted permeability   Wet soil moisture status
Marna	   10 	   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
L116A:	İ	 
Le Sueur	45 	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Lerdal	40	Acid soil Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Restricted permeability Wet soil moisture status
Mazaska	10	   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
Kilkenny	İ	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion Wet soil moisture status
L117C2: Omsrud, eroded	65	   Potential for surface-water contamination   Previously eroded   Water erosion
Omsrud	   15   	Potential for surface-water contamination   Previously eroded   Water erosion

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	İ
L117C2:		
Terril	10	Potential for ground-water contamination
		Potential for surface-water contamination
	 	Previously eroded   Water erosion
	i I	
Delft	,   5	Potential for ground-water contamination
	l	Previously eroded
		Wet soil moisture status
g		I water a contract
Storden, eroded	!	Lime content   Limited content of organic matter
	:	Potential for surface-water contamination
		Previously eroded
	İ	Water erosion
		Wind erosion
L118A: Rushriver, frequently flooded	l l 85	   Flooding
Rushilver, frequencry frooded	05 	Lime content
		Potential for ground-water contamination
	İ	Potential for surface-water contamination
	l	Wet soil moisture status
		Wind erosion
Houghton, frequently flooded	l l 5	   Flooding
noughton, frequenci, froded		High content of organic matter
	:	Potential for ground-water contamination
	İ	Potential for surface-water contamination
	l	Wet soil moisture status
		Wind erosion
Klossner, frequently flooded	l l 5	   Flooding
RIODDMCI, IIcdacuci, IIcoaca		High content of organic matter
	:	Potential for ground-water contamination
	l	Potential for surface-water contamination
		Wet soil moisture status
	 	Wind erosion
Medo, frequently flooded	l   5	   Flooding
	İ	High content of organic matter
		Potential for ground-water contamination
	l	Potential for surface-water contamination
	 	Wet soil moisture status   Wind erosion
	 	Wild elosion
L119B:	 	
Angus	80	Potential for ground-water contamination
	l	Potential for surface-water contamination
	 	Water erosion
Angus, eroded	I I 10	   Potential for ground-water contamination
5,		Potential for surface-water contamination
	l	Water erosion
- 1	_	 
Cordova	5	Potential poor tilth and compaction
	l I	Potential for ground-water contamination   Wet soil moisture status
Le Sueur	,   5	Potential poor tilth and compaction
	l	Potential for ground-water contamination
	ļ	Wet soil moisture status
	I	I

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Table 3.--Cropland Management Considerations--Continued

	l 5-4	
Map symbol and	Pct. of map	Cropland management considerations
component name	unit	Considerations
Component name	41110	l
L120A:		
Good Thunder	80   	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Ocheyedan	10	Potential for ground-water contamination   Potential for surface-water contamination   Water erosion
Minnetonka	   10 	Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
L121B:	İ	I 
Clarion	80   	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion
Guckeen	15	Potential poor tilth and compaction   Potential for ground-water contamination   Potential for surface-water contamination   Water erosion   Wet soil moisture status
Marna	5   5 	   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
L122B:		 
Reedslake	55	Potential for ground-water contamination   Potential for surface-water contamination   Water erosion
Estherville	25	Excessive permeability   Limited available water capacity   Potential for ground-water contamination   Potential for surface-water contamination   Water erosion   Wind erosion
Le Sueur	10 	   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
Cordova	5	Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status
Lowlein	5	Excessive permeability Potential for ground-water contamination Wet soil moisture status Wind erosion
L123A: Belleville	85	   Excessive permeability   Potential for ground-water contamination   Wet soil moisture status   Wind erosion

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	
L123A:		1
Granby	15	Excessive permeability   Limited available water capacity   Ponding   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status
!		Wind erosion
71043		
L124A: Glencoe mucky clay loam	85	Ponding   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status
Canisteo	10	Lime content   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status   Wind erosion
Glencoe clay loam	5	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L125A:		İ
Hanlon, rarely flooded	60	Potential for ground-water contamination   Wet soil moisture status   Wind erosion
Coland, occasionally flooded	25	Flooding   Potential poor tilth and compaction   Potential for ground-water contamination   Potential for surface-water contamination   Wet soil moisture status
Minneopa, rarely flooded	15	Excessive permeability   Limited available water capacity   Potential for ground-water contamination   Wet soil moisture status   Wind erosion
L126A:  Coland, occasionally flooded	80	Flooding
Minneopa, occasionally flooded	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Wet soil moisture status Wind erosion

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Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	
L126A:		
Havelock, occasionally flooded	l I 5	   Flooding
1100ded	] 3	Lime content
	] 	Potential poor tilth and compaction
		Potential for ground-water contamination
	İ	Potential for surface-water contamination
		Wet soil moisture status
		Wind erosion
Spillville, occasionally flooded	l I 5	   Flooding
1100ded	]	Potential for ground-water contamination
		Potential for surface-water contamination
	İ	Wet soil moisture status
L127A:		
Coland, frequently flooded	80	Flooding
	 	Channeled   Potential poor tilth and compaction
	<u> </u>	Potential for ground-water contamination
		Potential for surface-water contamination
	İ	Wet soil moisture status
Minneopa, occasionally	10	I dhamadad
flooded	10	Channeled   Excessive permeability
		Limited available water capacity
		Potential for ground-water contamination
	İ	Wet soil moisture status
		Wind erosion
	l I 5	l mlanding
Havelock, frequently flooded	]	Flooding   Channeled
		Lime content
	İ	Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
		Wind erosion
Spillville, occasionally		
flooded	5	Flooding
	İ	Channeled
		Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
L128A:	 	
Mazaska	60	Potential poor tilth and compaction
	l	Potential for ground-water contamination
		Wet soil moisture status
Polfo	20	Ponding
Rolfe	30 	Ponding   Potential for ground-water contamination
		Potential for surface-water contamination
		Wet soil moisture status
		İ
Lerdal	10	Acid soil
		Potential poor tilth and compaction
	 	Potential for ground-water contamination   Potential for surface-water contamination
	! 	Restricted permeability
	j	Wet soil moisture status

Table 3.--Cropland Management Considerations--Continued

Map symbol	Pct.	Cropland management
and	of map	considerations
component name	unit	
L129B:     Terril    	90	 
   Delft  	5	Potential for ground-water contamination   Wet soil moisture status
Hamel	5	   Potential for ground-water contamination   Wet soil moisture status
L130A: Okoboji mucky silty clay loam	75	Ponding
Okoboji silty clay loam	15	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Brownton	5	Lime content   Potential poor tilth and compaction   Potential for ground-water contamination   Restricted permeability   Wet soil moisture status
Spicer	5	Lime content   Potential poor tilth and compaction   Potential for ground-water contamination   Wet soil moisture status   Wind erosion
M-W.     Water, miscellaneous		 
U3B.   Udorthents (cut and fill   land)		
W.     Water		1   

Table 4.--Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

	I							
Map symbol and component name	Pct. of   map unit	Land capability	  Bromegrass-   alfalfa	  Bromegrass-  alfalfa hay	   Reed  canarygrass	   Corn 	   Oats 	   Soybeans 
İ	<u>_</u>		AUM*	Tons	Tons	Bu	Bu	Bu
GP:   Pits, gravel.			   	   	   		 	 
Udipsamments.	¦		 	 	 	 	 	 
L5A  Delft, overwash	       50	2w	   5.6 	   4.4 	   	   154   	   92 	   47 
 	40	2w	 	 	 		 	 
L13A  Klossner, drained	80   	3w	   4.1 	   3.1 	   	   127   	   81 	   39 
L14A	80   	3w	   	   	   	   126   	   81 	   39 
L15A	30	8w	   	   	   	     	   	   
Okoboji, ponded	30	8w				   	   	    -
Glencoe, ponded	30	8w				   	   	    -
L16A	30	8w	   	   	   	 	   	   
Blue Earth, ponded	30	8w						    -
Houghton, ponded	30	8w	 	 	 			 
L26B	90	2e	   5.6 	   4.4 	   	   145   	   85 	   42 
L36A	50	2w	   5.8 	   4.5 	   	   155   	   90 	   47 
   Hamel	43	2w	 	 	 			 
L40B	     45	2e	   5.5 	   4.3 	   	   149   	   86 	   46 
Kilkenny	40	2e		! !	!			! !

Table 4.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and	Pct. of	Land	Bromegrass-	Bromegrass-	Reed	Corn	Oats	Soybeans
component name	map unit	capability	alfalfa	alfalfa hay	canarygrass		İ	į
			AUM*	Tons	Tons	Bu	Bu	Bu Bu
  L41C2	l I		6.1	4.4	 	142	   81	   4:
Lester, eroded	45	3e	İ	İ				ĺ
Kilkenny, eroded	40	3e			 		   	!   !
L41D2	ļ		5.5	4.2	i i	127	71	   41
Lester, eroded	45   I	4e			 		 	 
Kilkenny, eroded	35	4e		 				   
  L41E			4.0	3.1	¦ ¦			 
Lester	45	6e				<u> </u>	 	  -
Kilkenny	40	6e						   
  L48A			5.8	4.4	¦ ¦	145	90	   50
Derrynane, overwash	50	2w					 	  -
Derrynane	40	2w						   
  L49A					5.0			 
Klossner, surface	ļ				[			
drained	65   	бw	l I	I I	 			 
Klossner, drained	20	3w	i i	į	 		   	  -
L50A	İ		i	i	5.0			i
Houghton, surface	ļ		!	!	!			!
drained	40   	бw			 		<u> </u>	 
Muskego, surface drained	40	бw	į	į	į			į
L51C2	80	3e	5.8	4.4	¦ ¦	139	81	   43
Gladek, eroded							 	  -
  L56A	ļ				i i			¦
Muskego, frequently								
flooded	45   I	бw					 	 
Klossner, frequently								
flooded	45	бw					 	 
ا   L57A	80	3w	4.4	3.3		125	   75	   38
Medo, drained			1	1	1		İ	1

Table 4.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and component name	Pct. of     map unit	Land capability	Bromegrass-   alfalfa   AUM*	Bromegrass-  alfalfa hay   Tons	Reed    canarygrass	Corn	Oats	Soybeans
L63A Klossner		3w	AOM^     4.3	10ns     3.3	Tons   	Bu     127	81	Bu 
L64A			 	 	 			
Tadkee, depressional	i i	3w 6w	   	 	 			
L73A Blue Earth	   80   	3w	   4.5 	   3.5 	     	   118   	78	   30
L74A Estherville	   87   	3s	   2.7 	   2.1 	     	75	57	   21 
L75B Barrington	   85   	2e	   5.7 	   4.4 	     	155	86	   49 
L76B Dickinson	   80   	3e	   4.1 	   3.1 	     	105	76	   32 
L77A Brownton	75     75	2w	   5.4 	   4.1 	     	148	84	   44 
L78A Canisteo	65     65	2w	   5.6 	   4.3 	     	153	86	   44 
L79BClarion	65     65	2e	   6.4 	   5.0 	     	160	92	   51 
L80C2 Lester, eroded	75     75	3e	   5.9 	4.5   1	     	145	82	   44
L80D2Lester, eroded	75     75	4e	   5.2 	4.0 	     	123	67	   4(
L81A Cordova	85     85	2w	   5.8 	   4.4 	     	153	89	   49 
L82A Marna	85     85	2w	   5.7 	   4.3 	     	151	90	   49 
L83A Webster	65     65	2w	   5.7 	   4.4 	     	157	89	   48 
L84AGlencoe	80     81	3w	   4.6 	   3.6 	 	137	81	   39 

Table 4.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and component name	Pct. of     map unit	Land capability	  Bromegrass-   alfalfa   AUM*		Reed canarygrass	Corn     Bu	Oats   Bu	Soybeans Bu
L85A Nicollet	   85   	1	6.4	5.0	   	   166 	94	51 
L86A Madelia	90     90	2w	   5.8 	   4.4 	   	   159 	   90 	   48 
L87A Kingston	85     85	1	   6.4 	   4.9 	   	   167 	   93 	   52 
L88A Lura	85     85	3w	   4.5 	   3.5 	   	   131 	   80 	   38 
L89A Guckeen	82     81	2w	   6.3 	   4.8 	   	   162 	   93 	   51 
L90A Le Sueur	75     75	1	   6.4 	   5.0 	   	   162 	   93 	   51 
L91A  Mazaska	85     85	2w	   5.1 	   4.1 	   	   132 	   84 	   43 
L92A  Darfur	   78   	2w	   5.4 	   4.1 	   	   147 	   86 	   45 
L93A  Muskego	   82   	4w	   4.5 	   3.5 	   	   120 	   80 	   35 
L94A  Lowlein	   75   	1	   5.0 	   3.8 	   	   136 	   88 	   42 
L95E  Hawick	   80   	7s	   2.3 	   1.7 	   	   	   	   
L96B Estherville	         55	3s	   2.7 	   2.0 	   	   69 	   54 	   21 
Hawick	35	4s	 	 	 	 	 	
L97C	   60	4s	   2.3 	   1.7 	   	   61 	   50 	   18 
Estherville	30	4s					 	

Map symbol and Pct. of |Bromegrass- |Bromegrass-Oats Soybeans Land Reed Corn alfalfa hay |canarygrass component name map unit | capability | alfalfa AUM\* Bu Tons Tons Bu Bu L98A----5.0 164 91 49 6.5 ---Crippin-----50 1 Nicollet-----40 1 L99B-----6.5 5.0 ---159 91 49 Clarion-----| 2e Swanlake-----25 2e L100B-----78 5.0 3.9 127 40 ---Clarion-----| 2e Estherville-----35 3s L101C2-----| 4.7 115 71 3.5 ---36 Omsrud, eroded-----40 3e Hawick-----| 30 4sStorden, eroded-----20 3e L101D2-----4.4 3.4 108 64 34 ---Omsrud, eroded-----4e Hawick-----| 25 6s Storden, eroded-----20 4e L102C2-----5.8 4.5 144 82 45 ---Omsrud, eroded-----45 3e Storden, eroded-----25 3e L102D2-----5.2 4.0 ---129 71 40 Omsrud, eroded-----45 4e Storden, eroded-----20 4e L103A-----5.5 4.2 151 86 42 ---Fieldon-----| 2w Canisteo-----35 2w

Table 4.--Land Capability and Yields per Acre of Crops and Pasture--Continued

See footnote at end of table.

Table 4.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and	Pct. of	Land	Bromegrass-	Bromegrass-	Reed	Corn	Oats	Soybeans
component name	map unit	capability	alfalfa	alfalfa hay	canarygrass		<u> </u>	İ
			AUM*	Tons	Tons	Bu	Bu	Bu
ا 	 		4.5	3.5		112	   69	   34
Lester, eroded	45	3e			!			1
Hawick	35   	4s		 	 		   	]   
			4.1	3.1	i i	99	60	32
Lester, eroded	45	4e					 	 
Hawick	35	6s					   	   
 			5.9	4.5	i i	142	   80	   44
Lester, eroded	62	3e					 	1
Storden, eroded	20	3e					   	] 
 			5.3	4.0	i i	122	   67	   40
Lester, eroded	62	4e					 	
Storden, eroded	20	4e					   	] 
ا 			5.3	4.1	i i	148	   84	   42
Canisteo	50	2w					 	
Glencoe	35	3w					   	İ
			5.3	4.0	i i	134	   78	43
Cordova	65	2w					 	 
Rolfe	30	3w					   	İ
ا 			5.2	4.0	i i	145	   87	   46
Marna	65	2w					 	
Barbert	30	3w					   	
 			4.1	3.2	 		 	
Lester	50	6e					  -	1
Ridgeton	30	4e					   	   
    					 		 	, 
Lester	55	7e					 	 
Ridgeton	30 I	6e	 				 	1

Map symbol and Pct. of |Bromegrass- |Bromegrass-Oats Soybeans Land Reed Corn alfalfa hay |canarygrass component name map unit | capability | alfalfa AUM\* Bu Tons Tons Bu Bu L111A-----| 85 1 5.0 166 94 51 6.5 ---Nicollet L112A-----| 85 2w 5.8 4.4 159 90 49 ---Webster L113B-----| 2e 6.4 4.9 160 91 51 Reedslake L114A-----2s 5.1 3.9 132 76 39 Hanlon, rarely flooded L115A-----42 3.9 142 83 5.1 ---Brownton-----55 2w Lura-----| 35 3w L116A-----5.7 4.4 141 82 44 ---Le Sueur-----45 1 Lerdal-----| 40 2e L117C2-----65 149 84 46 3e 5.9 4.5 ---Omsrud, eroded L118A-----| 85 ---------5w ------Rushriver, frequently flooded L119B-----| 80 5.7 158 90 49 2e 4.4 ---Angus L120A-----43 80 2w 5.6 4.3 ---147 85 Good Thunder L121B-----| 93 80 2e 5.9 4.5 159 51 Clarion L122B-----5.4 4.1 136 82 43 Reedslake-----55 2e Estherville-----25 3s L123A-----2w 3.4 2.6 101 72 31 Belleville

Table 4.--Land Capability and Yields per Acre of Crops and Pasture--Continued

See footnote at end of table.

Table 4.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and	Pct. of	Land	  Bromegrass-	  Bromegrass-	   Reed	Corn	Oats	Soybeans
component name	map unit	capability	alfalfa	alfalfa hay	canarygrass	l corn	Oats	Soybeans
			AUM*	Tons	Tons	Bu	Bu	Bu
L124AGlencoe	   85 	   3w 	   4.6 	   3.5 	   	   133   	81	   38 
L125A Hanlon, rarely flooded	     60	     2s	   5.0 	3.8	   	   127   	73	   38 
Coland, occasionally flooded	     25	     2w	   	   	   	     		   
L126A Coland, occasionally flooded	   80 	   2w 	   5.1 	3.9   	   	   141   	77	43   
L127AColand, frequently	   80 	   5w 	   	     	     	     		   
L128A	     60	     2w	   4.8 	   3.7 	   	   118   	74	   39 
Rolfe	30	   3w						    -
L129B Terril	   90 	   2e 	   6.5 	   5.1 	   	   160   	95	   51 
L130AOkoboji	   75 	   3w 	   4.4 	   3.4 	   	   131   	81	   38 
M-W. Water, miscellaneous			   	   	   	     		   
U3B. Udorthents (cut and fill land)			 	 	 			   
W. Water	   	 	     	     	     	     		     

<sup>\*</sup> Animal unit month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

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## Table 5.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name   
L5A	  Delft, overwash-Delft complex, 1 to 4 percent slopes (where drained)
L26B	Shorewood silty clay loam, 3 to 6 percent slopes
L36A	Hamel, overwash-Hamel complex, 1 to 4 percent slopes (where drained)
L40B	Angus-Kilkenny complex, 2 to 6 percent slopes
148A	Derrynane, overwash-Derrynane complex, 1 to 4 percent slopes (where drained)
175B	Barrington silt loam, 2 to 6 percent slopes
76B	Dickinson fine sandy loam, 1 to 6 percent slopes
77A	Brownton silty clay loam, 0 to 2 percent slopes (where drained)
178A	Canisteo clay loam, 0 to 2 percent slopes (where drained)
79B	Clarion loam, 2 to 5 percent slopes
L81A	Cordova clay loam, 0 to 2 percent slopes (where drained)
L82A	Marna silty clay loam, 0 to 2 percent slopes (where drained)
L83A	Webster clay loam, 0 to 2 percent slopes (where drained)
L84A	Glencoe clay loam, depressional, 0 to 1 percent slopes (where drained)
185A	Nicollet clay loam, 1 to 3 percent slopes
186A	Madelia silty clay loam, 0 to 2 percent slopes (where drained)
L87A	Kingston silty clay loam, 1 to 3 percent slopes
L88A	Lura silty clay, depressional, 0 to 1 percent slopes (where drained)
189A	Guckeen silty clay loam, 0 to 3 percent slopes
190A	Le Sueur clay loam, 0 to 3 percent slopes
L91A	Mazaska silty clay loam, 0 to 2 percent slopes (where drained)
L92A L94A	Darfur loam, 0 to 2 percent slopes (where drained)  Lowlein fine sandy loam, terrace, 0 to 3 percent slopes
194A 198A	Crippin-Nicollet complex, 1 to 3 percent slopes
190A 199B	Clarion-Swanlake complex, 2 to 6 percent slopes
103A	Fieldon-Canisteo complex, 0 to 2 percent slopes (where drained)
L107A	Canisteo-Glencoe, depressional, complex, 0 to 2 percent slopes (where drained)
108A	Cordova-Rolfe, depressional, complex, 0 to 2 percent slopes (where drained)
109A	Marna-Barbert, depressional, complex, 0 to 2 percent slopes (where drained)
111A	Nicollet silty clay loam, 1 to 3 percent slopes
112A	Webster silty clay loam, 0 to 2 percent slopes (where drained)
113B	Reedslake loam, 2 to 5 percent slopes
L114A	Hanlon fine sandy loam, 0 to 3 percent slopes, rarely flooded
L115A	Brownton-Lura, depressional, complex, 0 to 2 percent slopes (where drained)
116A	Le Sueur-Lerdal complex, 1 to 3 percent slopes
119B	Angus loam, 2 to 5 percent slopes
120A	Good Thunder silty clay loam, 0 to 3 percent slopes
121B	Clarion clay loam, 2 to 5 percent slopes
124A	Glencoe mucky clay loam, depressional, 0 to 1 percent slopes (where drained)
125A	Hanlon, rarely flooded-Coland, occasionally flooded, complex, 0 to 3 percent slopes (where   protected from flooding or not frequently flooded during the growing season)
L126A	Coland silty clay loam, 0 to 2 percent slopes, occasionally flooded (where   protected from flooding or not frequently flooded during the growing season)
128A	Mazaska-Rolfe, depressional, complex, 0 to 2 percent slopes (where drained)
L129B	Terril loam, 2 to 6 percent slopes
130A	Okoboji mucky silty clay loam, depressional, 0 to 1 percent slopes (where drained)

Table 6.--Windbreaks and Environmental Plantings

(Only the soils suitable for windbreaks and environmental plantings are listed. Absence of an entry indicates that trees generally do not grow to the given height)

Map symbol and	Pct. of					
component name	map unit	<8	8-15	16-25	26-35	>35
L5A: Delft, overwash	50	 	  American plum,   redosier dogwood   	Amur maple, eastern arborvitae, white spruce, common hackberry, tall purple willow	    Golden willow     	Green ash, silver maple, eastern cottonwood
Delft	40	       	American plum,   redosier dogwood   	Amur maple, eastern arborvitae, white spruce, common hackberry, tall purple willow	  Golden willow       	  Green ash, silver   maple, eastern   cottonwood 
Glencoe	5	  Redosier dogwood   	-	  Black ash, tall   purple willow 	  Black willow, golden   willow, white   willow	     
Terril	5	  Redosier dogwood       	Siberian peashrub,   American plum,   common lilac,   prunus, silver   buffaloberry	   Eastern redcedar,   Amur maple, Black   Hills spruce,   Norway spruce	  Honeylocust, jack   pine, black walnut,   common hackberry,   eastern white pine,   green ash	cottonwood
.13A:		İ	į	į		İ
Klossner, drained	80	 	Redosier dogwood,   silky dogwood	Black ash	Golden willow	 
Mineral soil, drained	15	  Redosier dogwood   	 - Silky dogwood 	Green ash, northern   whitecedar	  Golden willow   	  Eastern cottonwoo   
Houghton, drained	5	 	Redosier dogwood,   silky dogwood	  Black ash  	  Golden willow  	   
L14A: Houghton, drained	80	 	Redosier dogwood,	  Black ash	    Golden willow	   
Klossner, drained	10	   	Redosier dogwood,	  Black ash	  Golden willow  	   
Mineral soil, drained	10	  Redosier dogwood 	 - Silky dogwood 	  Green ash, northern   whitecedar	  Golden willow	  Eastern cottonwoo 

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L26B: Shorewood	90	  Hedge cotoneaster             	American cranberrybush, Siberian peashrub, common chokecherry, common lilac, cotoneaster, American plum, silver buffaloberry	Siberian crabapple,   eastern redcedar,   white spruce, Amur   maple, Austrian   pine, ponderosa   pine, common	  Green ash, jack pine               	   Silver maple,   eastern cottonwood     	
Good Thunder	5	  Hedge cotoneaster             	American   cranberrybush,   Siberian peashrub,   common chokecherry,   common lilac,   cotoneaster,   American plum,   silver buffaloberry	Siberian crabapple,   eastern redcedar,   white spruce, Amur   maple, Austrian   pine, Russian-   olive, ponderosa	  Green ash, jack pine             	Silver maple,   eastern cottonwood    -	
Minnetonka	5	  Nanking cherry             	American   cranberrybush,   cotoneaster,   sargent crabapple,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	spruce, Black Hills   spruce, ponderosa   pine, common   hackberry	  Eastern white pine,   golden willow     	Green ash, silver   maple, Siouxland   cottonwood, eastern   cottonwood	
L36A: Hamel, overwash	50	               	American   cranberrybush,   Nanking cherry,   common chokecherry,   redosier dogwood,   sargent crabapple,   American plum,   common lilac	Black Hills spruce,   blue spruce, white   spruce, eastern   redcedar, ponderosa   pine, Amur maple,   common hackberry	northern red oak,	  Silver maple,   eastern cottonwood,   Siouxland   cottonwood	

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	 	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35		
L36A: Hamel	   43       	    Nanking cherry           	American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	American plum, blue   spruce, Black Hills   spruce, ponderosa   pine, common   hackberry		Green ash, silver maple, Siouxland cottonwood, eastern cottonwood		
Terril	   5           	  Nanking cherry             	   American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, common lilac	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	  Green ash              	  Silver maple,   eastern cottonwood   Siouxland   cottonwood 		
Glencoe	   2 	  Redosier dogwood 	  Silky dogwood   	Green ash, northern   whitecedar	  Golden willow   	  Eastern cottonwood 		
L40B: Angus	   45           	  Nanking cherry             	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	  Green ash              	  Silver maple,   eastern cottonwood   Siouxland   cottonwood 		
Kilkenny	40 	  Nanking cherry                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, common lilac	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	Green ash  	  Silver maple,   eastern cottonwood   Siouxland   cottonwood 		

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L40B:   Lerdal       	10	  Hedge cotoneaster         	American   cranberrybush,   common chokecherry,   common lilac,   cotoneaster,   American plum,   silver buffaloberry	Siberian crabapple,   eastern redcedar,   white spruce, Amur   maple, Austrian   pine, ponderosa   pine, common   hackberry, eastern	    Green ash           	  Silver maple,   eastern cottonwood     	
Mazaska  	5	  Nanking cherry           	American   cranberrybush,   cotoneaster,   sargent crabapple,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	white pine    American plum, blue   spruce, Black Hills   spruce, ponderosa   pine, common   hackberry		  Green ash, silver   maple, Siouxland   cottonwood, easter:   cottonwood	
L41C2:							
Lester, eroded	45	Nanking cherry    -  -  -  -  -  -	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, common lilac	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	Green ash    	Silver maple,   eastern cottonwood   Siouxland   cottonwood	
Kilkenny, eroded	40	  Nanking cherry                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, common lilac	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	  Green ash                	Silver maple,   eastern cottonwood   Siouxland   cottonwood 	

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	 	Trees having predic	ted 20-year average h	eight, in feet, of	
component name	map unit	<8	8-15	16-25	26-35	>35
L41C2: Terril	10	    Nanking cherry             	American	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	    Green ash           	  silver maple,  eastern cottonwood,  Siouxland  cottonwood 
Derrynane	5	  Nanking cherry             	American	American plum, blue   spruce, Black Hills   spruce, ponderosa   pine, common   hackberry		Green ash, silver   maple, Siouxland   cottonwood, eastern   cottonwood
L41D2:		İ	İ	į	İ	İ
Lester, eroded	45	Nanking cherry    -  -  -  -  -	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, common lilaco	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	Green ash     -  -  -  -  -	Silver maple,   eastern cottonwood,   Siouxland   cottonwood 
Kilkenny, eroded	35	  Nanking cherry               	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, common lilace	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	  Green ash             	   Silver maple,   eastern cottonwood,   Siouxland   cottonwood   

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	 	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35		
L41D2: Terril	   10         	    Nanking cherry           	   American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, common lilac	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	    Green ash           	  silver maple,  eastern cottonwood,  Siouxland  cottonwood 		
Derrynane	5           	  Nanking cherry           	American   cranberrybush,   cotoneaster,   sargent crabapple,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	spruce, Black Hills   spruce, ponderosa   pine, common   hackberry	  Eastern white pine,   golden willow       	Green ash, silver   maple, Siouxland   cottonwood, eastern   cottonwood		
Ridgeton	   5           	  Nanking cherry             	  American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, common lilac	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	  Green ash              	Silver maple,   eastern cottonwood,   Siouxland   cottonwood 		
L41E: Lester	45   45         	  Nanking cherry               	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, common lilac	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	  Green ash              	Silver maple,   eastern cottonwood,   Siouxland   cottonwood 		

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	 	Trees having predic	ted 20-year average h	eight, in feet, of	
component name	map unit	<8	8-15	16-25	26-35	>35
L41E: Kilkenny	40	    Nanking cherry           	   American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, common lilac	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	    Green ash           	   silver maple,   eastern cottonwood,   Siouxland   cottonwood
Terril	5	  Nanking cherry             	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, common lilac	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	  Green ash              	   silver maple,   eastern cottonwood,   siouxland   cottonwood
Derrynane	5	  Nanking cherry             	American   cranberrybush,   cotoneaster,   sargent crabapple,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, blue   spruce, Black Hills   spruce, ponderosa   pine, common   hackberry		Green ash, silver maple, Siouxland cottonwood, eastern cottonwood
Ridgeton	5	  Nanking cherry               	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, common lilac	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	  Green ash              	   silver maple,   eastern cottonwood,   Siouxland   cottonwood 
L48A: Derrynane, overwash	50	       	  Redosier dogwood       	  American plum, Amur   maple, white   spruce, tall purple   willow	       	  Golden willow, green   ash   

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Map symbol and	Pct. of					
component name	map unit	<8	8-15	16-25	26-35	>35
L48A:   Derrynane	40		  Redosier dogwood   	maple, white spruce, tall purple	 	    Golden willow, green   ash 
 	5	Redosier dogwood		willow    Black ash, tall   purple willow 	    Black willow, golden   willow, white   willow	       
Terril          	5	Redosier dogwood	Siberian peashrub,   American plum,   common lilac,   prunus, silver   buffaloberry	Eastern redcedar,   Amur maple, Black   Hills spruce,   Norway spruce	  Honeylocust, jack   pine, black walnut,   common hackberry,   eastern white pine,   green ash	cottonwood
L49A:				 	 	 
Klossner, surface drained	65					 
Klossner, drained	20		  Redosier dogwood,   silky dogwood	  Black ash  	  Golden willow  	   
Mineral soil, drained	15	Redosier dogwood	  Silky dogwood	  Green ash, northern   whitecedar	  Golden willow  	  Eastern cottonwood 
L50A:   Houghton, surface   drained	40			 	     	     
	40		<u> </u>			
Muskego, surface drained	40	<del></del> 		<del></del> 	 	 
Klossner, drained	10		Redosier dogwood,   silky dogwood	Black ash	Golden willow	 
Mineral soil, drained	10	Redosier dogwood	Silky dogwood	  Green ash, northern   whitecedar	  Golden willow  	  Eastern cottonwood 
L51C2:     Gladek, eroded  	80			  Eastern arborvitae,   eastern redcedar,   Amur maple, blue   spruce	  Russian-olive,   common hackberry,   green ash, eastern   white pine	 

Table 6.--Windbreaks and Environmental Plantings--Continued

Table 6.--Windbreaks and Environmental Plantings--Continued

			Trees having predic	ted 20-year average he	eight, in feet, of	
Map symbol and	Pct. of					
component name	map unit	<8	8-15	16-25	26-35	>35
L51C2: Barrington	10 	    Silky dogwood     	  American   cranberrybush, Amur   honeysuckle, Amur   privet	  Washington hawthorn,  blue spruce,  eastern arborvitae,  white fir	Austrian pine,   Norway spruce 	    Pin oak, eastern   white pine   
Lester, eroded	5	     	Siberian peashrub,   common lilac, gray   dogwood, redosier   dogwood	Eastern arborvitae,   eastern redcedar,   Amur maple, blue   spruce	Russian-olive, common hackberry, eastern white pine, green ash	     
Madelia	5	       	  American plum,   redosier dogwood     	Amur maple, eastern arborvitae, white spruce, common hackberry, tall purple willow	  Golden willow     	Green ash, silver maple, eastern cottonwood
L57A:		İ	 	 		 
Medo, drained	80	 	Redosier dogwood,	Black ash  	Golden willow  	 
Mineral soil, drained	15	  Redosier dogwood 	  Silky dogwood 	  Green ash, northern   whitecedar	  Golden willow  	  Eastern cottonwood 
Houghton, drained	5	   	  Redosier dogwood,   silky dogwood	  Black ash  	  Golden willow  	   
L63A:		 	 	 	 	 
Klossner	85	 	Nannyberry, silky   dogwood	White spruce	Norway spruce, green   ash	Imperial Carolina   poplar
Lura	10 	  Redosier dogwood   	   	  Black ash, tall   purple willow 	  Black willow, golden   willow, white   willow	   
Brownton	5	  Honeysuckle      	  Siberian peashrub,   common lilac,   eastern arborvitae	Eastern redcedar,   bur oak, white   spruce, common   hackberry	Green ash, golden   willow, honeylocust 	  Eastern cottonwood   
L64A:		! 	 	 		 
Tadkee	50					
Tadkee, depressional	   36	 	 	   		   

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L64A: Better drained soil	     8   	 	  Tatarian   honeysuckle, common   lilac, redosier   dogwood	   Eastern arborvitae,   white spruce, Amur   maple, blue spruce	  Austrian pine,   eastern white pine,   common hackberry,   green ash	  Silver maple 	
Granby	   4 	 	 	 	 		
Less sandy soil	   2 	 		 	 		
L73A: Blue Earth	   80 	    Redosier dogwood   	  Gray dogwood, silky   dogwood	  Northern whitecedar,   black ash, tall   purple willow	  Black willow, golden   willow, white   willow	  Eastern cottonwood 	
Belleville	   10 	  Redosier dogwood   	  Gray dogwood, silky   dogwood 	  Northern whitecedar,   black ash, tall   purple willow	  Black willow, golden   willow, white   willow	  Eastern cottonwood   	
Canisteo	   10 	  Redosier dogwood   	  Gray dogwood, silky   dogwood 	  Northern whitecedar,   black ash, tall   purple willow	  Black willow, golden   willow, white   willow	  Eastern cottonwood   	
L74A: Estherville	   87         	  Siberian peashrub           	American plum,   common chokecherry,   common lilac,   sargent crabapple,   silver buffaloberry	jack pine,   ponderosa pine,	  Eastern white pine,   red pine, Scotch   pine, eastern   cottonwood		
Hawick	10         	Siberian peashrub             	American plum,   common chokecherry,   common lilac,   sargent crabapple,   silver buffaloberry	eastern redcedar,   jack pine,   ponderosa pine,	Eastern white pine,   red pine, Scotch   pine, eastern   cottonwood 	     	

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	 	Tiees having predic	ted 20-year average h	ergne, in feet, of	
component name	map unit	<8	8-15	16-25	26-35	>35
L74A: Biscay	   3         	                 	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black Hills spruce, ponderosa pine, common hackberry, tall purple willow	  Eastern white pine,   golden willow       	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood
L75B:	! 	 				İ
Barrington	85   	Nanking cherry	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	honeylocust, jack   pine 	Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar
Gladek	   10     	     	Siberian peashrub,   common lilac, gray   dogwood, redosier   dogwood	Eastern arborvitae,   eastern redcedar,   Amur maple, blue   spruce	Russian-olive,   common hackberry,   green ash, eastern   white pine	   
Madelia	5             	                 	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	Eastern white pine, golden willow	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood

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Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L76B: Dickinson	80	    Hedge cotoneaster           	American   cranberrybush,   American plum,   siberian peashrub,   common chokecherry,   common lilac,   silver   buffaloberry,   eastern redcedar	   Black Hills spruce,   ponderosa pine,   Amur maple, common   hackberry, white   spruce, Norway   spruce	Eastern white pine,   green ash,   honeylocust, red   pine	  silver maple,   eastern cottonwood   	
Litchfield	13	             	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood, Austrian pine, eastern white pine, northern red oak, green ash	  Silver maple,   eastern cottonwood   Siouxland   cottonwood 	
Darfur	5	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black Hills spruce, ponderosa pine, common hackberry, tall purple willow	Eastern white pine,   golden willow	Green ash, quaking aspen, silver maple, Siouxland cottonwood, easter cottonwood	
Clarion	2	  Nanking cherry                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine           	   Silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	

Table 6.--Windbreaks and Environmental Plantings--Continued

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	   Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L77A: Brownton	     75 	    Redosier dogwood   	  - Gray dogwood, silky   dogwood 	    Northern whitecedar,   black ash, tall   purple willow	    Black willow, golden   willow, white   willow	    Eastern cottonwood   	
Marna	   15             	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black Hills spruce, ponderosa pine, common hackberry, tall purple willow	  Eastern white pine,   golden willow         	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood	
Lura	   10     	  Redosier dogwood     	Silky dogwood	Tamarack, green ash,   northern   whitecedar, black   ash, tall purple   willow	  Black willow, golden   willow   	Eastern cottonwood	
L78A:	 	 		 	 	 	
Canisteo	65   	Redosier dogwood   	- Gray dogwood, silky   dogwood	Northern whitecedar,   black ash, tall   purple willow	Black willow, golden   willow, white   willow	Eastern cottonwood	
Crippin	   10             	               	American plum,   Siberian peashrub,   common chokecherry,   common lilac,   sargent crabapple,   silver   buffaloberry,   cotoneaster, gray   dogwood		Green ash,   honeylocust, golden   willow	Eastern cottonwood, Siouxland cottonwood	
Glencoe	   10       	  Redosier dogwood         	  silky dogwood       	Tamarack, green ash,   northern   whitecedar, black   ash, tall purple   willow	  Black willow, golden   willow     	  Eastern cottonwood       	

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L78A:  Canisteo, depressional	5	    Redosier dogwood       	  -  Silky dogwood    -  -	Tamarack, green ash, northern whitecedar, black ash, tall purple willow	  Black willow, golden   willow   	    Eastern cottonwood     	
Harps	5	  Redosier dogwood     	  Common lilac,   eastern arborvitae   	Blue spruce, eastern   redcedar, white   spruce, common   hackberry	  Green ash, golden   willow, honeylocust 	  Eastern cottonwood   	
Webster	5	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	Hills spruce, ponderosa pine, common hackberry, tall purple willow	  Eastern white pine,   golden willow         	Green ash, quaking aspen, silver maple, Siouxland cottonwood, easter cottonwood	
L79B: Clarion	65	  Nanking cherry                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	honeylocust, jack   pine 	Silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
Clarion, eroded	25	       	Siberian peashrub,   common lilac, gray   dogwood, redosier   dogwood	  Eastern arborvitae,   eastern redcedar,   Amur maple, blue   spruce	Russian-olive, common hackberry, green ash, eastern white pine	       	

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	   Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L79B: Nicollet	   8           	 	   Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	   Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood, Austrian pine, eastern white pine, northern red oak, green ash	  Silver maple,   eastern cottonwood,  Siouxland   cottonwood 	
Webster		               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black Hills spruce, ponderosa pine, common hackberry, tall purple willow	  Eastern white pine,   golden willow           	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood	
L80C2:	! 	 			 		
Lester, eroded	75               	Nanking cherry    -  -  -  -  -  -	American	Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash,   honeylocust, jack   pine             	Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
Terril	10                 	Nanking cherry  	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash,   honeylocust, jack   pine	Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	   Pct. of	 	Trees having predic	ted 20-year average h	eight, in feet, of	
component name	map unit	<8	8-15	16-25	26-35	>35
L80C2: Hamel	   5           	 	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	  American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	  Eastern white pine,   golden willow         	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood
Reedslake	   5             	  Nanking cherry               	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash,   honeylocust, jack   pine	Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar
Storden, eroded	   5   	  American plum,   common lilac   	  Siberian peashrub,   Black Hills spruce,   common hackberry,   eastern redcedar	  Green ash, ponderosa   pine, honeylocust   	  Eastern cottonwood   	       
L80D2: Lester, eroded	   75               	  Nanking cherry                 		Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine         	   Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	   Pct. of	 	rrees naving predic	ted 20-year average h	eignt, in reet, of	
component name	map unit	<8	8-15	16-25	26-35	>35
L80D2: Ridgeton	   10           	                   	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce,   ponderosa pine,   eastern white pine,   red pine	  Green ash,   honeylocust, jack   pine     	
Storden, eroded	   8   	  American plum,   common lilac   	Siberian peashrub,   Black Hills spruce,   common hackberry,   eastern redcedar	  Green ash, ponderosa   pine, honeylocust   	  Eastern cottonwood   	       
Terril	   5             	                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine     	Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar
Hame1		                 	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black     Hills spruce,     ponderosa pine,     common hackberry,     tall purple willow	  Eastern white pine,   golden willow         	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood

Map symbol and	Pct. of	 	Trees having predict	ced 20-year average he	eight, in feet, of	
component name	map unit	<8	8-15	16-25	26-35	>35
L81A: Cordova	   85             	 	   American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black Hills spruce, ponderosa pine, common hackberry, tall purple willow	Eastern white pine, golden willow	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood
Le Sueur	10           	         	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Norway spruce,	American basswood, Austrian pine, eastern white pine, northern red oak, green ash	   Silver maple,   eastern cottonwood,   Siouxland   cottonwood
Rolfe	   5     	  Redosier dogwood         	  Silky dogwood        	Tamarack, green ash, northern whitecedar, black ash, tall purple willow	  Black willow, golden   willow   	  Eastern cottonwood       
L82A:	 	! 	 		 	 
Marna	85               	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black Hills spruce, ponderosa pine, common hackberry, tall purple willow	Eastern white pine, golden willow	Green ash, quaking   aspen, silver   maple, Siouxland   cottonwood, eastern   cottonwood
Barbert	10       	Redosier dogwood   	silky dogwood           	Tamarack, green ash, northern whitecedar, black ash, tall purple willow	Black willow, golden   willow       	Eastern cottonwood

Table 6.--Windbreaks and Environmental Plantings--Continued

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	 	Trees having predic	ted 20-year average h	eight, in feet, of	
component name	map unit	<8	8-15	16-25	26-35	>35
L82A: Guckeen	5	 	  Siberian peashrub,   common lilac 	Bur oak, eastern arborvitae, eastern redcedar, white spruce, Austrian pine, common hackberry	    Eastern white pine,   green ash     	 
L83A:		! 		 	! 	! 
Webster	65	                 	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	Eastern white pine,   golden willow	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood
Glencoe	15	  Redosier dogwood       	Silky dogwood	Tamarack, green ash,   northern   whitecedar, black   ash, tall purple   willow	  Black willow, golden   willow   	  Eastern cottonwood     
Canisteo	10	  Redosier dogwood   	- Gray dogwood, silky   dogwood	  Northern whitecedar,   black ash, tall   purple willow	  Black willow, golden   willow, white   willow	  Eastern cottonwood   
Nicollet	10	               	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	   American basswood,   Austrian pine,   eastern white pine,   northern red oak,   green ash	  Silver maple,   eastern cottonwood,   Siouxland   cottonwood 
L84A: Glencoe	80	  Redosier dogwood         	 - Silky dogwood	  Tamarack, green ash,   northern   whitecedar, black   ash, tall purple   willow	  Black willow, golden   willow     	  Eastern cottonwood       

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	 		Trees having predic	ted 20-year average h	eight, in feet, of	
component name	map unit	i	<8	8-15	16-25	26-35	>35
L84A:	   	 		   	 	 	
Very poorly drained muck	10       	Redosier         	dogwood	Silky dogwood         	Tamarack, green ash,   northern   whitecedar, black   ash, tall purple   willow	Black willow, golden   willow     	Eastern cottonwood       
Canisteo	5     	Redosier     	dogwood	Gray dogwood, silky dogwood 	Northern whitecedar,   black ash, tall   purple willow	Black willow, golden   willow, white   willow 	Eastern cottonwood
Harps	5     	Redosier       	dogwood	  Common lilac,   eastern arborvitae   	Blue spruce, eastern   redcedar, white   spruce, common   hackberry	Green ash, golden   willow, honeylocust   	Eastern cottonwood
L85A:	İ	į		İ	j	j	İ
Nicollet	85             	-                 		Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood,   Austrian pine,   eastern white pine,   northern red oak,   green ash	Silver maple,   eastern cottonwood   Siouxland   cottonwood 
Clarion	10                 	Nanking o	cherry	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash,   honeylocust, jack   pine	Silver maple,   eastern cottonwoo   quaking aspen,   Siouxland   cottonwood,   Carolina poplar

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of		11ees having predic	ted 20-year average h		
component name	map unit	<8	8-15	16-25	26-35	>35
L85A: Webster	   5           	 	  American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	  American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	Eastern white pine, golden willow	  Green ash, quaking  aspen, silver  maple, Siouxland  cottonwood, eastern  cottonwood
1967.	 				 	
L86A: Madelia	   90             	                 	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	  Eastern white pine,   golden willow           	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood
Okoboji	5     	  Redosier dogwood         	Silky dogwood           	Tamarack, green ash,   northern   whitecedar, black   ash, tall purple   willow	Black willow, golden   willow       	Eastern cottonwood 
Spicer	   3					
Kingston	2 	                 	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood, Austrian pine, eastern white pine, northern red oak, green ash	

Table 6.--Windbreaks and Environmental Plantings--Continued

			Trees having predic	ted 20-year average h	eight, in feet, of	
Map symbol and	Pct. of	ļ		1	1	1
component name	map unit	<8	8-15	16-25	26-35	>35
L87A:	 	 	 	 	 	 
Kingston	85               	               	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood,   Austrian pine,   eastern white pine,   northern red oak,   green ash	Silver maple,   eastern cottonwood   Siouxland   cottonwood   
Truman	   10     	     	Siberian peashrub,   common lilac, gray   dogwood, redosier   dogwood	Eastern arborvitae,   eastern redcedar,   Amur maple, blue   spruce	Russian-olive,   common hackberry,   green ash, eastern   white pine	     
Madelia	5               	                 	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	Eastern white pine,   golden willow	Green ash, quaking aspen, silver maple, Siouxland cottonwood, easter cottonwood
L88A: Lura	   85     	  Redosier dogwood       	  Silky dogwood       	Tamarack, green ash, northern whitecedar, black ash, tall purple willow	  Black willow, golden   willow     	  Eastern cottonwood     
Brownton	   10   	  Redosier dogwood   	  Gray dogwood, silky   dogwood 	  Northern whitecedar,   black ash, tall   purple willow	  Black willow, golden   willow, white   willow	  Eastern cottonwood   

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L88A: Organic soil	   5               	  Nanking cherry,   sargent crabapple         	American   cranberrybush,   common lilac,   cotoneaster,   redosier dogwood,   American plum, Amur   maple, Siberian   peashrub, blue   spruce, common   chokecherry,   eastern redcedar,   silver buffaloberry	Hills spruce, Manchurian crabapple, Norway spruce, Siberian crabapple, white spruce, Russian- olive, common hackberry, common hackberry, tall purple willow	   Red pine   	Golden willow, greer ash, silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar	
L89A: Guckeen	   82     	         	  Siberian peashrub,   common lilac   	  Bur oak, eastern   arborvitae, eastern   redcedar, white   spruce, Austrian   pine, common   hackberry	  Eastern white pine,   green ash     	         	
Marna	   10           	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	Hills spruce, ponderosa pine, common hackberry, tall purple willow	Eastern white pine,   golden willow         	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood	
Clarion clay loam	8 	                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash,   honeylocust, jack   pine	  Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	

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Map symbol and	Pct. of						
component name	map unit	<8	8-15	16-25	26-35	>35	
L90A: Le Sueur			Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	   Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood, Austrian pine, eastern white pine, northern red oak, green ash	  Silver maple,   eastern cottonwood   Siouxland   cottonwood 	
Cordova	13		American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	Eastern white pine,   golden willow	Green ash, quaking aspen, silver maple, Siouxland cottonwood, easter cottonwood	
Reedslake			American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Black Hills spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine,   red pine	  Green ash,   honeylocust, jack   pine           		
L91A: Mazaska	85     85   		American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black Hills spruce, ponderosa pine, common hackberry, tall purple willow	Eastern white pine, golden willow	Green ash, quaking   aspen, silver   maple, Siouxland   cottonwood, easter   cottonwood	

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of			ted 20-year average h		
component name	map unit	<8	8-15	16-25	26-35	>35
L91A: Lerdal	10	  Hedge cotoneaster           	American   cranberrybush,   Siberian peashrub,   common chokecherry,   common lilac,   cotoneaster,   American plum,   silver buffaloberry	Siberian crabapple,   eastern redcedar,   white spruce, Amur   maple, Austrian   pine, ponderosa   pine, common	  Green ash, jack pine           	Silver maple, eastern cottonwood
Rolfe	5	  Redosier dogwood         	  Silky dogwood       	Tamarack, green ash, northern whitecedar, black ash, tall purple willow	  Black willow, golden   willow   	Eastern cottonwood
L92A: Darfur	78	                 	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black Hills spruce, ponderosa pine, common hackberry, tall purple willow	Eastern white pine, golden willow	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood
Fieldon	10	  Redosier dogwood   	  Gray dogwood, silky   dogwood 	   Northern whitecedar,   black ash, tall   purple willow	Black willow, golden   willow, white   willow	Eastern cottonwood
Litchfield	5	               	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood, Austrian pine, eastern white pine, northern red oak, green ash	Silver maple, eastern cottonwood, Siouxland cottonwood

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Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of of						
component name	map unit	<8	8-15	16-25	26-35	>35		
L92A: Webster	5	 	    American	    American plum, Black		    Green ash, quaking		
		 	cranberrybush, cotoneaster, sargent crabapple, white spruce, Siberian peashrub, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	golden willow               	aspen, silver maple, Siouxland cottonwood, eastern cottonwood		
Dassel	2	Redosier dogwood   	Silky dogwood   	Tamarack, green ash,   northern   whitecedar, black   ash, tall purple   willow	Black willow, golden   willow         	Eastern cottonwood		
L93A: Muskego	   82	  Common ninebark,	  American	  White spruce,	  Eastern redcedar	  Tmperial Carolina		
		nannyberry,   redosier dogwood,   silky dogwood	cranberrybush, late   lilac, eastern   arborvitae	-	 	poplar   poplar 		
Blue Earth	10	Redosier dogwood 	 	Black ash, tall   purple willow	  Golden willow, white   willow 	 		
Mineral soil, drained	5	  Redosier dogwood 	Silky dogwood  	Green ash, northern   whitecedar	  Golden willow  	  Eastern cottonwood 		
Belleville	3	  Redosier dogwood     	  Gray dogwood, silky   dogwood 	  Northern whitecedar,   black ash, tall   purple willow	  Black willow, golden   willow, white   willow 	  Eastern cottonwood   		
L94A:		į	į		į			
Lowlein	75	             	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce, Norway spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry, red pine	American basswood,   Austrian pine,   eastern white pine,   northern red oak,   green ash	Silver maple,   eastern cottonwood   Siouxland   cottonwood   		

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	 	Trees having predic	ted 20-year average h	eight, in feet, of	
component name	map unit	<8	8-15	16-25	26-35	>35
L94A: Linder	   15           	                 	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood,   Austrian pine,   eastern white pine,   northern red oak,   green ash	  Silver maple,   eastern cottonwood,   Siouxland   cottonwood
Dickinson	8             	Hedge cotoneaster    -  -  -  -  -	American   cranberrybush,   American plum,   Siberian peashrub,   common chokecherry,   common lilac,   silver   buffaloberry,   eastern redcedar	Black Hills spruce,   ponderosa pine,   Amur maple, common   hackberry, white   spruce, Norway   spruce	Eastern white pine,   green ash,   honeylocust, red   pine 	Silver maple,   eastern cottonwood       
Darfur	2               	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	Hills spruce, ponderosa pine, common hackberry, tall purple willow	Eastern white pine,   golden willow   	Green ash, quaking   aspen, silver   maple, Siouxland   cottonwood, eastern   cottonwood
L95E: Hawick	   80           	  Siberian peashrub             	  American plum,   common chokecherry,   common lilac,   sargent crabapple,   silver buffaloberry	eastern redcedar, jack pine, ponderosa pine,	  Eastern white pine,   red pine, Scotch   pine, eastern   cottonwood 	               

Table 6.--Windbreaks and Environmental Plantings--Continued

Trees having predicted 20-year average heic

Map symbol and	Pct. of							
component name	map unit	<8	8-15	16-25	26-35	>35		
L95E: Estherville	10	  -  Siberian peashrub     	  American plum,   common chokecherry,   common lilac,   sargent crabapple,		  Eastern white pine,   red pine, Scotch   pine, eastern   cottonwood	     		
		 	silver buffaloberry       	white spruce,   Austrian pine,   green ash, silver   maple	       	 		
Tomall	10	Nanking cherry    -  -  -  -  -  -	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, common lilac	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	Green ash    	Silver maple,   eastern cottonwood   Siouxland   cottonwood 		
L96B: Estherville	55	  Siberian peashrub           	  American plum,   common chokecherry,   common lilac,   sargent crabapple,   silver buffaloberry	eastern redcedar,   jack pine,   ponderosa pine,		           		
Hawick	35	  Siberian peashrub           	   American plum,   common chokecherry,   common lilac,   sargent crabapple,   silver buffaloberry	eastern redcedar,   jack pine,   ponderosa pine,	Eastern white pine,   red pine, Scotch   pine, eastern   cottonwood	         		

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	   Pct. of	[ 	rrees having predic	ted 20-year average h	eignt, in feet, of	
component name	map unit	<8	8-15	16-25	26-35	>35
L96B: Tomall	   8               	 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine   	   Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar
Biscay	2             	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	Hills spruce, ponderosa pine, common hackberry, tall purple willow	Eastern white pine,   golden willow	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood
L97C: Hawick	   60           	  Siberian peashrub         	American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry	jack pine,   ponderosa pine,	  Eastern white pine,   red pine, Scotch   pine, eastern   cottonwood 	               
Estherville	   30           	  Siberian peashrub           	American plum,   common chokecherry,   common lilac,   sargent crabapple,   silver buffaloberry	jack pine,   ponderosa pine,	Eastern white pine,   red pine, Scotch   pine, eastern   cottonwood	               

Table 6.--Windbreaks and Environmental Plantings--Continued

Management 1 and 2			Trees having predic	ted 20-year average h	eight, in feet, of	
Map symbol and	Pct. of		1 0.15	1	1 05 25	1
component name	map unit	<8	8-15	16-25	26-35	>35
L97C:	 	 	 	l I	 	 
Tomall	l l 10	 	  American	  Black Hills spruce,	  Green ash,	  Silver maple,
	10 	I I	cranberrybush,	eastern redcedar,	honeylocust, jack	eastern cottonwood
	i I	I I	common chokecherry,		pine	quaking aspen,
	i	İ	cotoneaster,	Norway spruce,		Siouxland
	i	i	sargent crabapple,	ponderosa pine,	i	cottonwood,
	i	i	silver	eastern white pine,	i	Carolina poplar
	İ	i	buffaloberry,	red pine	i	i
	İ	İ	American plum, Amur	į -	İ	İ
	İ	İ	maple, Siberian	İ	İ	İ
	ĺ		peashrub, common	İ	Ī	
	l		lilac	l		
				l		
L98A:	l					
Crippin	50		American plum,	Eastern redcedar,	Green ash,	Eastern cottonwood,
	!	!	Siberian peashrub,		honeylocust, golden	•
	<u> </u>	!	common chokecherry,		willow	cottonwood
	!	!	common lilac,	maple, Norway	!	
	ļ		sargent crabapple,	spruce, common		
		1	silver	hackberry,	1	 
	l I	 	buffaloberry,   cotoneaster, gray	ponderosa pine	 	l i
	l I	 	dogwood	 	 	 
	! 	 	dogwood	 	! 	! 
Nicollet	40	i	Nanking cherry,	Black Hills spruce,	American basswood,	Silver maple,
	l		Siberian peashrub,	Norway spruce,	Austrian pine,	eastern cottonwood
			common chokecherry,	white spruce,	eastern white pine,	Siouxland
			redosier dogwood,	eastern redcedar,	northern red oak,	cottonwood
			sargent crabapple,	ponderosa pine,	green ash	
			silver	Amur maple, common		
			buffaloberry,	hackberry, red pine	1	
			American plum,			
	ļ		common lilac			
Canisteo	   5	   Dodogian dominal	Cmarr dominand #433	  Nonthorn whitegation	  Black willow, golden	  Engtown gottom:
Cantaceo	l s	Legosier Godwoog	dogwood silky	black ash, tall	willow, white	Eastern Corronwood
	I I	 	aogwood 	purple willow	willow, white	 
		1	1	L POTATE MITIOM	MTTTOM	I

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	   Pct. of	 	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35		
L98A:	   	 	 	 	 	   		
Clarion	5               	                   	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	honeylocust, jack   pine   	Silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar		
L99B:			Į.		I			
Clarion	62 	                   	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	honeylocust, jack   pine   	Silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar		
Swanlake	25   25 	American plum,   Siberian peashrub	Common hackberry,   eastern redcedar	Green ash,   honeylocust 	Siberian elm	   		
Nicollet	10             	                 	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood,   Austrian pine,   eastern white pine,   northern red oak,   green ash	Silver maple,   eastern cottonwood   Siouxland   cottonwood 		

Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L99B: Webster	   3           	                   	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black Hills spruce, ponderosa pine, common hackberry, tall purple willow	Eastern white pine, golden willow	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood	
L100B: Clarion	   45             	               	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine     	  Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
Estherville	   35       	  Siberian peashrub         	American plum,   common chokecherry,   common lilac,   sargent crabapple,   silver buffaloberry	eastern redcedar,   jack pine,   ponderosa pine,	Eastern white pine,   red pine, Scotch   pine, eastern   cottonwood 	           	
Lowlein	   5   	   	  Common lilac,   redosier dogwood 	Eastern arborvitae,   white spruce, Amur   maple, blue spruce	Austrian pine,   eastern white pine,   common hackberry,   green ash	  Silver maple     	
Nicollet	   5           	             		Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	  American basswood,   Austrian pine,   eastern white pine,   northern red oak,   green ash	  Silver maple,   eastern cottonwood   Siouxland   cottonwood   	

Table 6.--Windbreaks and Environmental Plantings--Continued

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	 		ted 20-year average h		
component name	map unit	<8	8-15	16-25	26-35	>35
L100B: Swanlake	     5 	    American plum,   Siberian peashrub	  Common hackberry,   eastern redcedar	  Green ash,   honeylocust	    Siberian elm	 
Webster	   5           	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black     Hills spruce,     ponderosa pine,     common hackberry,     tall purple willow	  Eastern white pine,   golden willow           	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood
L101C2: Omsrud, eroded	40   	               	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	honeylocust, jack   pine     	  Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar
Hawick	   30         	  Siberian peashrub         	  American plum,   common chokecherry,   common lilac,   sargent crabapple,   silver buffaloberry	jack pine,   ponderosa pine,	   Eastern white pine,   red pine, Scotch   pine, eastern   cottonwood 	         
Storden, eroded	   20     	  American plum,   common lilac   	  Siberian peashrub,   Black Hills spruce,   common hackberry,   eastern redcedar	  Green ash, ponderosa   pine, honeylocust   	  Eastern cottonwood       	       

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	   Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L101C2: Delft	     5	 	    American   cranberrybush,	    American plum, Black   Hills spruce,	    Eastern white pine,   golden willow	    Green ash, quaking   aspen, silver	
			Cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	ponderosa pine,   common hackberry,   tall purple willow   	gorden willow	maple, Siouxland cottonwood, easter: cottonwood	
Terril	5       	Redosier dogwood           	Siberian peashrub,   American plum,   common lilac,   prunus, silver   buffaloberry	Eastern redcedar,   Amur maple, Black   Hills spruce,   Norway spruce	Honeylocust, jack   pine, black walnut,   common hackberry,   eastern white pine,   green ash	Silver maple,   Siouxland   cottonwood 	
L101D2: Omsrud, eroded	   40             	                   	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Black Hills spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine,   red pine	  Green ash,   honeylocust, jack   pine       	Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
Hawick	25             	Siberian peashrub   	American plum,   common chokecherry,   common lilac,   sargent crabapple,   silver buffaloberry	Russian-olive,   eastern redcedar,   jack pine,	Eastern white pine,   red pine, Scotch   pine, eastern   cottonwood	           	
Storden, eroded	20       	  American plum,   Siberian peashrub     	  Cotoneaster         	Common hackberry,   eastern redcedar,   green ash,   honeylocust, sugar   maple	     	     	

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and		Trees having predicted 20-year average height, in feet, of						
component name	map unit	<8	8-15	16-25	26-35	>35		
L101D2: Ridgeton	6		American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce,   ponderosa pine,   eastern white pine,   red pine	honeylocust, jack   pine 			
Delft	5   1   1   1   1   1   1   1   1   1		American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black Hills spruce, ponderosa pine, common hackberry, tall purple willow	  Eastern white pine,   golden willow         	Green ash, quaking   aspen, silver   maple, Siouxland   cottonwood, eastern   cottonwood		
Terril	4		American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	honeylocust, jack   pine 	Silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar		
L102C2: Omsrud, eroded	45		American	Norway spruce, ponderosa pine, eastern white pine, red pine	honeylocust, jack   pine 	Silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar		

ľable	6Windbreaks	and	Environmental	PlantingsContinued	

Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L102C2: Storden, eroded	     25   	  American plum,   common lilac   	  Siberian peashrub,  Black Hills spruce,  common hackberry,  eastern redcedar	  Green ash, ponderosa   pine, honeylocust 	    Eastern cottonwood     	 	
Omsrud	   15               	               	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash,   honeylocust, jack   pine	Silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
Terril	   10     	  Redosier dogwood       	Siberian peashrub,   American plum,   common lilac,   prunus, silver   buffaloberry	   Eastern redcedar,   Amur maple, Black   Hills spruce,   Norway spruce	Honeylocust, jack   pine, black walnut,   common hackberry,   eastern white pine,   green ash	  Silver maple,   Siouxland   cottonwood 	
Delft	   5             	                   	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	Eastern white pine,   golden willow	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood	
L102D2: Omsrud, eroded	   45             	                   	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Black Hills spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine,   red pine	Green ash,   honeylocust, jack   pine		

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of						
component name	map unit	<8	8-15	16-25	26-35	>35	
L102D2: Storden, eroded	   20     	    American plum,   Siberian peashrub     	    Cotoneaster       	Common hackberry, eastern redcedar, green ash, honeylocust, sugar maple	       	 	
Omsrud	   15               	               	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine         	Silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
Ridgeton	8 	             	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	honeylocust, jack   pine 	Silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
Delft	   6           	                 	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	Hills spruce, ponderosa pine, common hackberry, tall purple willow	  Eastern white pine,   golden willow           	Green ash, quaking   aspen, silver   maple, Siouxland   cottonwood, eastern   cottonwood	

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L102D2:		   	   	 	   	   	
Terril	6	                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash,   honeylocust, jack   pine	Silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
L103A:							
Fieldon	50	Redosier dogwood     	Gray dogwood, silky   dogwood 	Northern whitecedar,   black ash, tall   purple willow	Black willow, golden   willow, white   willow	Eastern cottonwood   	
Canisteo	35	  Redosier dogwood   	  Gray dogwood, silky   dogwood 	  Northern whitecedar,   black ash, tall   purple willow	  Black willow, golden   willow, white   willow	  Eastern cottonwood   	
Darfur	10	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	  Eastern white pine,   golden willow       	Green ash, quaking aspen, silver maple, Siouxland cottonwood, easterr cottonwood	
Glencoe	5	  Redosier dogwood         	  silky dogwood       	Tamarack, green ash,   northern   whitecedar, black   ash, tall purple   willow	  Black willow, golden   willow     	  Eastern cottonwood       	

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	   Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L105C2: Lester, eroded	   45             	                   	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine   	  Silver maple,   eastern cottonwood,   quaking aspen,  Siouxland   cottonwood,   Carolina poplar	
Hawick	   35         	  Siberian peashrub         	  American plum,   common chokecherry,   common lilac,   sargent crabapple,   silver buffaloberry	jack pine,   ponderosa pine,	  Eastern white pine,   red pine, Scotch   pine, eastern   cottonwood 	         	
Terril	   10     	  Redosier dogwood       	  Siberian peashrub,  American plum,  common lilac,  prunus, silver  buffaloberry	  Eastern redcedar,   Amur maple, Black   Hills spruce,   Norway spruce	  Honeylocust, jack   pine, black walnut,   common hackberry,   eastern white pine,   green ash	  Silver maple,   Siouxland   cottonwood 	
Hamel	5   5           	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black     Hills spruce,     ponderosa pine,     common hackberry,     tall purple willow	  Eastern white pine,   golden willow         	Green ash, quaking aspen, silver maple, siouxland cottonwood, eastern cottonwood	
Storden, eroded	   5     	  American plum,   common lilac     	  Siberian peashrub,   Black Hills spruce,   common hackberry,   eastern redcedar	  Green ash, ponderosa   pine, honeylocust     	  Eastern cottonwood       	     	

Map symbol and	   Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L105D2: Lester, eroded	   45               	 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Black Hills spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	honeylocust, jack   pine   	  Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
Hawick	   35       	  Siberian peashrub           	  American plum,   common chokecherry,   common lilac,   sargent crabapple,   silver buffaloberry	Black Hills spruce,   eastern redcedar,   jack pine,   ponderosa pine,   white spruce,   Austrian pine,   green ash, silver   maple	   Eastern white pine,   red pine, Scotch   pine, eastern   cottonwood 	           	
Ridgeton	8   8         	               	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce,   ponderosa pine,   eastern white pine,   red pine	  Green ash,   honeylocust, jack   pine       	   Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
Hamel	   5           	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	   American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	  Eastern white pine,   golden willow         	  Green ash, quaking   aspen, silver   maple, Siouxland   cottonwood, easterr   cottonwood	

Table 6.--Windbreaks and Environmental Plantings--Continued

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L105D2: Storden, eroded	5	  American plum,   common lilac   	  Siberian peashrub,   Black Hills spruce,   common hackberry,   eastern redcedar	  Green ash, ponderosa   pine, honeylocust   	    Eastern cottonwood   		
Terril	2	                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine     	Silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
L106C2: Lester, eroded	62	                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	honeylocust, jack   pine   	silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
Storden, eroded	20	  American plum,   common lilac   	Siberian peashrub,   Black Hills spruce,   common hackberry,   eastern redcedar	  Green ash, ponderosa   pine, honeylocust 	  Eastern cottonwood   		
Terril	10	 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine           	Silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of						
component name	map unit	<8	8-15	16-25	26-35	>35		
L106C2: Hamel	   5         	 	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,	  American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	    Eastern white pine,   golden willow     	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood		
Reedslake	3     3           	 	redosier dogwood, silver buffaloberry American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, Siberian peashrub, common lilac	Black Hills spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine,   red pine	  -  Green ash,   honeylocust, jack   pine  -  -			
L106D2: Lester, eroded	   62           	                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine         			
Storden, eroded	   20     	  American plum,   common lilac   		  Green ash, ponderosa   pine, honeylocust   	  Eastern cottonwood     	       		

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	 	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35		
L106D2: Ridgeton	10	   cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, Siberian peashrub, common lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine   	Silver maple, eastern cottonwood, quaking aspen, Siouxland cottonwood, Carolina poplar			
Terril	5	                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	honeylocust, jack   pine   	Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar		
Hamel	3	                 	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	Hills spruce, ponderosa pine, common hackberry, tall purple willow	  Eastern white pine,   golden willow           	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood		
L107A:	! 	İ		İ				
Canisteo	50	Redosier dogwood	Gray dogwood, silky   dogwood 	  Northern whitecedar,   black ash, tall   purple willow	  Black willow, golden   willow, white   willow	Eastern cottonwood		
Glencoe	35	  Redosier dogwood         	  Silky dogwood       	Tamarack, green ash, northern whitecedar, black ash, tall purple willow	  Black willow, golden   willow     	  Eastern cottonwood       		

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	 	Trees having predic	ted 20-year average h	eight, in feet, of	
component name	map unit	<8	8-15	16-25	26-35	>35
L107A: Harps	10	    Redosier dogwood     	  Common lilac,   eastern arborvitae 	  Blue spruce, eastern   redcedar, white   spruce, common   hackberry	  Green ash, golden  willow, honeylocust 	    Eastern cottonwood     
Canisteo, depressional	3	  Redosier dogwood   	  Gray dogwood, silky   dogwood 	  Northern whitecedar,   black ash, tall   purple willow	  Black willow, golden   willow, white   willow	  Eastern cottonwood     
Crippin	2	           	American plum,   Siberian peashrub,   common chokecherry,   common lilac,   sargent crabapple,   silver   buffaloberry,   cotoneaster, gray   dogwood	Eastern redcedar,   white spruce, Black   Hills spruce, Amur   maple, Norway   spruce, common   hackberry,   ponderosa pine	  Green ash,   honeylocust, golden   willow       	Eastern cottonwood   Siouxland   cottonwood 
L108A:		 	 	 	 	 
Cordova	65	                 	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow 	Eastern white pine,   golden willow             	Green ash, quaking   aspen, silver   maple, Siouxland   cottonwood, easter   cottonwood
Rolfe	30	Redosier dogwood       	Silky dogwood	Tamarack, green ash,   northern   whitecedar, black   ash, tall purple   willow	  Black willow, golden   willow   	  Eastern cottonwood       
Le Sueur	5	     	  Common lilac,   redosier dogwood   	  Eastern arborvitae,   white spruce, Amur   maple, blue spruce 	Austrian pine,   eastern white pine,   common hackberry,   green ash	  Silver maple     

Table 6.--Windbreaks and Environmental Plantings--Continued

			Trees having predic	ted 20-year average h	eight, in feet, of	
Map symbol and	Pct. of					1
component name	map unit	<8	8-15	16-25	26-35	>35
L109A:	l I	 		 	 	 
Marna	65             	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black Hills spruce, ponderosa pine, common hackberry, tall purple willow	Eastern white pine,   golden willow	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood
Barbert	   30     	  Redosier dogwood     	Silky dogwood	Tamarack, green ash,   northern   whitecedar, black   ash, tall purple   willow	  Black willow, golden   willow   	  Eastern cottonwood     
Guckeen	   5       	         	Siberian peashrub,   common lilac	Bur oak, eastern   arborvitae, eastern   redcedar, white   spruce, Austrian   pine, common   hackberry	  Eastern white pine,   green ash     	           
L110E:	i					
Lester	50                 	Nanking cherry    -  -  -  -  -  -  -	American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, Siberian peashrub, common lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash,   honeylocust, jack   pine	silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar

ľable	6Windbreaks	and	Environmental	PlantingsContinued	

Map symbol and	Pct. of	i				
component name	map unit	<8	8-15	16-25	26-35	>35
L110E: Ridgeton	30	    Nanking cherry               	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce,   ponderosa pine,   eastern white pine,   red pine	Green ash, honeylocust, jack pine	   Silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar
Cokato	10	  Nanking cherry             	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash,   honeylocust, jack   pine	
Belview	6	  American plum,   common lilac 	  Siberian peashrub,   Black Hills spruce,   common hackberry,   eastern redcedar	  Green ash, ponderosa   pine, honeylocust 	  Eastern cottonwood   	   
Hamel	2	         	  American plum         	Amur maple, redosier   dogwood, eastern   arborvitae, white   spruce, common   hackberry, tall   purple willow	  Golden willow         	Green ash, silver maple, eastern cottonwood
Terril	2	Nanking cherry   	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	honeylocust, jack   pine   	Silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of						
component name	map unit	<8	8-15	16-25	26-35	>35		
L110F: Lester	   55                 	    Nanking cherry                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce,   ponderosa pine,   eastern white pine,   red pine	honeylocust, jack   pine   	   silver maple,   eastern cottonwood,   quaking aspen,   siouxland   cottonwood,   Carolina poplar		
Ridgeton	30                 	Nanking cherry                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash,   honeylocust, jack   pine	Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar		
Cokato	   8           	  Nanking cherry               	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash,   honeylocust, jack   pine	Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar		
Belview	   4     	  American plum,   common lilac     	  Siberian peashrub,   Black Hills spruce,   common hackberry,   eastern redcedar	  Green ash, ponderosa   pine, honeylocust     	  Eastern cottonwood     	     		

		Trees having predicted 20-year average height, in feet, of						
Map symbol and	Pct. of		1 0.15	1 11 0	1 04 05	1		
component name	map unit	<8	8-15	16-25	26-35	>35		
L110F:	ļ	1	1	1	1	 		
Terril	   2 	  Nanking cherry 	  American   cranberrybush,	  Black Hills spruce,   eastern redcedar,	  Green ash,   honeylocust, jack	  Silver maple,   eastern cottonwood		
	         	 	common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, Siberian	Norway spruce, ponderosa pine, eastern white pine, red pine	pine	quaking aspen,   Siouxland   cottonwood,   Carolina poplar		
	     	   	peashrub, common   lilac	   	   	   		
Hamel	1       	       	American plum           	Amur maple, redosier   dogwood, eastern   arborvitae, white   spruce, common   hackberry, tall   purple willow	Golden willow   	Green ash, silver   maple, eastern   cottonwood 		
L111A:	! 	 	 	! 	! 	! 		
Nicollet	               	               	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood, Austrian pine, eastern white pine, northern red oak, green ash	Silver maple,   eastern cottonwood   Siouxland   cottonwood		
Clarion	10               	;                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common	eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash,   honeylocust, jack   pine	Silver maple,   eastern cottonwood   quaking aspen,   Siouxland   cottonwood,   Carolina poplar		

lilac

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of		Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35		
L111A: Webster	5	             	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,	American plum, Black Hills spruce, ponderosa pine, common hackberry, tall purple willow	    Eastern white pine,   golden willow       	  Green ash, quaking   aspen, silver   maple, Siouxland   cottonwood, eastern   cottonwood		
L112A:		   	silver buffaloberry   	   	   	   		
Webster	85	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	Eastern white pine,   golden willow	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood		
Glencoe	10	Redosier dogwood           	Silky dogwood           	Tamarack, green ash, northern whitecedar, black ash, tall purple willow	Black willow, golden   willow       	Eastern cottonwood 		
Nicollet	5	               		Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood, Austrian pine, eastern white pine, northern red oak, green ash	  Silver maple,   eastern cottonwood,   Siouxland   cottonwood   		

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of		Trees having predicted 20-year average height, in feet, of						
component name	map unit	<8	8-15	16-25	26-35	>35			
L113B: Reedslake	   75               		American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine     	  Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar			
Le Sueur	10               		Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood, Austrian pine, eastern white pine, northern red oak, green ash	  Silver maple,   eastern cottonwood,   Siouxland   cottonwood   			
Reedslake, eroded	10   		American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash,   honeylocust, jack   pine				
Cordova	5   		American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	  Eastern white pine,   golden willow           	Green ash, quaking aspen, silver maple, Siouxland cottonwood, easterr cottonwood			

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	 	irees naving predic	ted 20-year average h	ergnt, in reet, or	
component name	map unit	<8	8-15	16-25	26-35	>35
L114A: Hanlon, rarely flooded	85	 	  Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	   Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	  American basswood,   Austrian pine,   eastern white pine,   northern red oak,   green ash	  silver maple,  eastern cottonwood,  siouxland  cottonwood 
Coland, occasionally		İ	i	İ	İ	
flooded	10	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	Eastern white pine,   golden willow	Green ash, quaking   aspen, silver   maple, Siouxland   cottonwood, eastern   cottonwood
Minneopa, rarely flooded	5	             	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood,   Austrian pine,   eastern white pine,   northern red oak,   green ash	Silver maple,   eastern cottonwood,   Siouxland   cottonwood 
L115A:		! 		! 	! [	! [
Brownton	55	Redosier dogwood     	d Gray dogwood, silky   dogwood 	  Northern whitecedar,   black ash, tall   purple willow	  Black willow, golden   willow, white   willow	Eastern cottonwood     
Lura	35	  Redosier dogwood         	d Silky dogwood	  Tamarack, green ash,   northern   whitecedar, black   ash, tall purple   willow	  Black willow, golden   willow     	  Eastern cottonwood       

Map symbol and	   Pct. of	Trees having predicted 20-year average height, in feet, of						
component name	map unit	<8	8-15	16-25	26-35	>35		
L115A: Marna	10   10   10   10   10   10   10   10	                   	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black Hills spruce, ponderosa pine, common hackberry, tall purple willow	 	Green ash, quaking aspen, silver maple, Siouxland cottonwood, easter cottonwood		
	İ	İ		İ		İ		
L116A: Le Sueur	   45         	             	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	  American basswood,   Austrian pine,   eastern white pine,   northern red oak,   green ash	  Silver maple,   eastern cottonwood   Siouxland   cottonwood 		
Lerdal	40 	Hedge cotoneaster   	American   cranberrybush,   Siberian peashrub,   common chokecherry,   common lilac,   cotoneaster,   American plum,   silver buffaloberry	maple, Austrian   pine, ponderosa   pine, common	Green ash, jack pine	Silver maple,   eastern cottonwood   		
Mazaska	   10             	             	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	  Eastern white pine,   golden willow       	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood		

silver buffaloberry

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of					
component name	map unit	<8	8-15	16-25	26-35	>35	
L116A: Kilkenny	   5           	    Nanking cherry           	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, common lilac	blue spruce,   eastern redcedar,   white spruce,   Norway spruce,   ponderosa pine,   eastern white pine	  Green ash             	  Silver maple,   eastern cottonwood,   Siouxland   cottonwood 	
L117C2: Omsrud, eroded	   65             	                   	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine     	  Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
Omsrud	   15           	                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine     		
Terril	   10               	 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine       		

Map symbol and	   Pct. of	Trees having predicted 20-year average height, in feet, of						
component name	map unit	<8	8-15	16-25	26-35	>35		
L117C2: Delft	   5             	 	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black Hills spruce, ponderosa pine, common hackberry, tall purple willow	Eastern white pine, golden willow	  Green ash, quaking  aspen, silver  maple, Siouxland  cottonwood, eastern  cottonwood		
Storden, eroded	   5     	  American plum,   Siberian peashrub     	  Cotoneaster        	Common hackberry,   eastern redcedar,   green ash,   honeylocust, sugar   maple	       	       		
L118A: Rushriver, frequently flooded	     85   	      Redosier dogwood   	    Gray dogwood, silky   dogwood 	      Northern whitecedar,   black ash, tall   purple willow	      Black willow, golden   willow, white   	    -  Eastern cottonwood   		
Houghton, frequently flooded	     5	 	 	 	 			
Klossner, frequently flooded	     5	 	 	 	 	 		
Medo, frequently flooded	   5 	  Common ninebark  	Amur privet,	   	  Golden willow 			
L119B: Angus	   80             	                   	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine     	  Silver maple,   eastern cottonwood,   quaking aspen,  Siouxland   cottonwood,   Carolina poplar		

Table 6.--Windbreaks and Environmental Plantings--Continued

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	   Pct. of   map unit	Trees having predicted 20-year average height, in feet, of					
		<8	8-15	16-25	26-35	>35	
L119B: Angus, eroded	   10             		American	Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine       	  Silver maple,   eastern cottonwood,   quaking aspen,  Siouxland   cottonwood,   Carolina poplar	
Cordova	   5             	                 	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	Hills spruce, ponderosa pine, common hackberry, tall purple willow	  Eastern white pine,   golden willow       	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood	
Le Sueur	   5         	                 		Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	Austrian pine, eastern white pine, northern red oak, green ash	  Silver maple,   eastern cottonwood,   Siouxland   cottonwood 	
L120A: Good Thunder	   80             	  Hedge cotoneaster               	American   cranberrybush,   Siberian peashrub,   common chokecherry,   common lilac,   cotoneaster,   American plum,   silver buffaloberry	Siberian crabapple,   eastern redcedar,   white spruce, Amur   maple, Austrian   pine, ponderosa   pine, common	  Green ash, jack pine                 	  Silver maple,   eastern cottonwood             	

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	   Pct. of     map unit	Trees having predicted 20-year average height, in feet, of					
		<8	8-15	16-25	26-35	>35	
L120A: Ocheyedan	10		American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine     	  Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
Minnetonka	10		American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	Eastern white pine,   golden willow               	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood	
L121B: Clarion	80		American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	  Green ash,   honeylocust, jack   pine     	   Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
Guckeen	15		Siberian peashrub,   common lilac	Bur oak, eastern   arborvitae, eastern   redcedar, white   spruce, Austrian   pine, common   hackberry	  Eastern white pine,   green ash     	         	

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and component name	Pct. of map unit	Trees having predicted 20-year average height, in feet, of					
		<8	8-15	16-25	26-35	>35	
L121B: Marna	5	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	Eastern white pine,   golden willow	Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood	
L122B:		 	 	 	 	 	
Reedslake	55	                 	American   cranberrybush,   common chokecherry,   cotoneaster,   sargent crabapple,   silver   buffaloberry,   American plum, Amur   maple, Siberian   peashrub, common   lilac	Norway spruce, ponderosa pine, eastern white pine, red pine	Green ash,   honeylocust, jack   pine         	Silver maple,   eastern cottonwood,   quaking aspen,   Siouxland   cottonwood,   Carolina poplar	
Estherville	25	  Siberian peashrub         	  American plum,   common chokecherry,   common lilac,   sargent crabapple,   silver buffaloberry	eastern redcedar,   jack pine,   ponderosa pine,	  Eastern white pine,   red pine, Scotch   pine, eastern   cottonwood	           	
Le Sueur	10	             	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	  American basswood,   Austrian pine,   eastern white pine,   northern red oak,   green ash	  Silver maple,   eastern cottonwood,   Siouxland   cottonwood 	

		Trees having predicted 20-year average height, in feet, of					
Map symbol and	Pct. of	   <8	l 8-15	16.05	1 26.25	l 525	
component name	map unit	<0	0-12	16-25	26-35	>35	
L122B:	     5	   	    American	    American plum, Black	  -  Rastern white nine.	    Green ash, quaking	
0014074		 	cranberrybush, cotoneaster, sargent crabapple, white spruce, Siberian peashrub, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry	Hills spruce, ponderosa pine, common hackberry, tall purple willow	golden willow	aspen, silver   maple, Siouxland   cottonwood, easter:   cottonwood	
Lowlein	5       	       	Common lilac,   redosier dogwood   	Eastern arborvitae,   white spruce, Amur   maple, blue spruce 	Austrian pine,   eastern white pine,   common hackberry,   green ash	Silver maple 	
L123A:	İ	j	İ	İ	İ	İ	
Belleville	85   	Redosier dogwood   	Gray dogwood, silky   dogwood 	Northern whitecedar,   black ash, tall   purple willow	Black willow, golden   willow, white   willow	Eastern cottonwood   	
Granby	   15     	  Redosier dogwood       	  Silky dogwood       	Tamarack, green ash, northern whitecedar, black ash, tall purple willow	  Black willow, golden   willow   	  Eastern cottonwood     	
L124A:	 	 	 	 	 	 	
Glencoe mucky clay loam	85       	Redosier dogwood           	silky dogwood   	Tamarack, green ash,   northern   whitecedar, black   ash, tall purple   willow	Black willow, golden   willow       	Eastern cottonwood	
Canisteo	   10   	  Redosier dogwood   	  Gray dogwood, silky   dogwood 	  Northern whitecedar,   black ash, tall   purple willow	  Black willow, golden   willow, white   willow	  Eastern cottonwood   	
Glencoe clay loam	   5   	  Redosier dogwood     	  Silky dogwood   	Tamarack, green ash, northern whitecedar, black ash, tall purple	  Black willow, golden   willow   	  Eastern cottonwood   	

willow

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	   Pct. of  _	Trees having predicted 20-year average height, in feet, of							
component name	map unit	<8	8-15	16-25	26-35	>35			
L125A: Hanlon, rarely flooded	60		Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	   Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood, Austrian pine, eastern white pine, northern red oak, green ash	  Silver maple,   eastern cottonwood,   Siouxland   cottonwood 			
Coland, occasionally					 	 			
flooded			American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	Eastern white pine,   golden willow               	Green ash, quaking   aspen, silver   maple, Siouxland   cottonwood, eastern   cottonwood			
Minneopa, rarely flooded			Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood, Austrian pine, eastern white pine, northern red oak, green ash	Silver maple,   eastern cottonwood,   Siouxland   cottonwood 			
L126A:				 	 	 			
Coland, occasionally flooded	80		American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	Hills spruce, ponderosa pine, common hackberry, tall purple willow	  Eastern white pine,   golden willow           	  Green ash, quaking   aspen, silver   maple, Siouxland   cottonwood, eastern   cottonwood			

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of							
component name	map unit	<8	8-15	16-25	26-35	>35			
L126A: Minneopa, occasionally flooded	     10           	 	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood, Austrian pine, eastern white pine, northern red oak, green ash	    Silver maple,   eastern cottonwood   Siouxland   cottonwood   			
Havelock, occasionally	i	i I		i I	i I	! 			
flooded	   5   	  Redosier dogwood     	Gray dogwood, silky   dogwood 	   Northern whitecedar,   black ash, tall   purple willow 	Black willow, golden   willow, white   willow 	Eastern cottonwood			
Spillville, occasionally	İ	İ	İ	İ	İ	İ			
flooded	5               	               	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Black Hills spruce,   Norway spruce,   white spruce,   eastern redcedar,   ponderosa pine,   Amur maple, common   hackberry, red pine	American basswood,   Austrian pine,   eastern white pine,   northern red oak,   green ash 	Silver maple,   eastern cottonwood   Siouxland   cottonwood   			
L127A:	i	<u> </u>			<u> </u>	İ			
Coland, frequently flooded	   80       	  Redosier dogwood         	  Silky dogwood       	Tamarack, green ash,   northern   whitecedar, black   ash, tall purple   willow	  Black willow, golden   willow     	  Eastern cottonwood         			
Minneopa, occasionally flooded	   10             	               	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Norway spruce,	American basswood, Austrian pine, eastern white pine, northern red oak, green ash	  Silver maple,   eastern cottonwood   Siouxland   cottonwood   			

Table 6.--Windbreaks and Environmental Plantings--Continued

Map symbol and	Pct. of	Trees having predicted 20-year average height, in feet, of							
component name	map unit	<8	8-15	16-25	26-35	>35			
L127A: Havelock, frequently flooded	       5 	      Redosier dogwood   	    Gray dogwood, silky   dogwood 	  -  Northern whitecedar,   black ash, tall   purple willow	    Black willow, golden   willow, white   willow	      Eastern cottonwood   			
Spillville, occasionally	 	i I	! 	! 	! 	! 			
flooded	5             	             	Nanking cherry,   Siberian peashrub,   common chokecherry,   redosier dogwood,   sargent crabapple,   silver   buffaloberry,   American plum,   common lilac	Norway spruce,	American basswood,   Austrian pine,   eastern white pine,   northern red oak,   green ash	Silver maple,   eastern cottonwood   Siouxland   cottonwood 			
L128A:		İ	İ	 	 	 			
Mazaska	60             	               	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black   Hills spruce,   ponderosa pine,   common hackberry,   tall purple willow	Eastern white pine,   golden willow             	Green ash, quaking   aspen, silver   maple, Siouxland   cottonwood, easter   cottonwood			
Rolfe	   30     	  Redosier dogwood     	  Silky dogwood      	Tamarack, green ash,   northern   whitecedar, black   ash, tall purple   willow	  Black willow, golden   willow   	  Eastern cottonwood     			
Lerdal	   10             	  Hedge cotoneaster             	  American   cranberrybush,   Siberian peashrub,   common chokecherry,   common lilac,   cotoneaster,   American plum,   silver buffaloberry	Siberian crabapple,   eastern redcedar,   white spruce, Amur   maple, Austrian   pine, ponderosa   pine, common	  Green ash, jack pine                 	  Silver maple,   eastern cottonwood             			

				Π			Trees	having	predicted	20-year	average	height,	in	feet,	01
Mar	symbol	. а	nd		Pct	 f									

	ļ	<u> </u>	Trees having predicted 20-year average height, in feet, of				
Map symbol and component name	Pct. of map unit	   <8	8-15	16-25	26-35	>35	
Ocaponono namo		l	l	l		l	
L129B: Terril	90   	  Redosier dogwood     		Eastern redcedar, Amur maple, Black Hills spruce, Norway spruce	Honeylocust, jack pine, black walnut, common hackberry, eastern white pine, green ash	  Silver maple,   Siouxland   cottonwood	
Delft	   5           	             	American   cranberrybush,   cotoneaster,   sargent crabapple,   white spruce,   Siberian peashrub,   common lilac,   eastern redcedar,   redosier dogwood,   silver buffaloberry	American plum, Black Hills spruce, ponderosa pine, common hackberry, tall purple willow		Green ash, quaking aspen, silver maple, Siouxland cottonwood, eastern cottonwood	
Hamel	5   5     	         	  American plum         	Amur maple, redosier   dogwood, eastern   arborvitae, white   spruce, common   hackberry, tall   purple willow	  Golden willow        	  Green ash, silver   maple, eastern   cottonwood 	
L130A: Okoboji mucky silty clay loam	     75   	    -  Redosier dogwood    -  -	      Silky dogwood       	Tamarack, green ash, northern whitecedar, black ash, tall purple willow	     Black willow, golden   willow   	    -  Eastern cottonwood    - 	
Okoboji silty clay loam	   15     	  Redosier dogwood       	  silky dogwood       	Tamarack, green ash,   northern   whitecedar, black   ash, tall purple   willow	  Black willow, golden   willow   	  Eastern cottonwood       	
Brownton	   5 	  Redosier dogwood   	  Gray dogwood, silky   dogwood 	  Northern whitecedar,   black ash, tall   purple willow	Black willow, golden willow, white willow	  Eastern cottonwood   	
Spicer	   5 	   	   	   		   	

Table 6.--Windbreaks and Environmental Plantings--Continued

Table 7.--Windbreak Suitability Groups

(Suitable shrubs and trees with their mature heights are listed in table 6. Absence of an entry indicates that a windbreak suitability group is not assigned)

	Pct. of   map unit	
1	 	
T = 3 .	ı	
L5A:   Delft, overwash	50	2
Delft	40	2
Glencoe	5	2
Terril	5   I	3
L13A:   Klossner, drained	80   80	2н
Mineral soil, drained	15	2
Houghton, drained	5   1	2Н
L14A:   Houghton, drained	80   80	2н
Klossner, drained	10	2Н
Mineral soil, drained	10	2
L15A:   Klossner, ponded	30	10
Okoboji, ponded	30	10
Glencoe, ponded	30	10
Houghton, ponded	10	10
L16A:   Muskego, ponded	30	10
Blue Earth, ponded	30	10
Houghton, ponded	30	10
Klossner, ponded	10	10
L26B:   Shorewood	90	4
Good Thunder	5	4
Minnetonka	5   1	2
L36A:   Hamel, overwash	50	1
Hamel	43	2
   Terril	5   I	3
Glencoe	2   	2

Table 7.--Windbreak Suitability Groups--Continued

	ı	
Map symbol	Pct. of	   Windbreak
	map unit	
component name		group
L40B:		 
Angus	l   45	   3
<b>5</b> ***		
Kilkenny	40	3
Lerdal	   10	   4
ner dar	10 	<del>*</del> 
Mazaska	5	2
7.41.00		
L41C2: Lester, eroded	l   45	   3
202001, 02000	-5	
Kilkenny, eroded	40	3
m41	10	
Terril	10 	] 3 
Derrynane	5	2
L41D2:	45	
Lester, eroded	45 	] 3 
Kilkenny, eroded	35	3
	İ	
Terril	10	3
Derrynane	l l 5	   2
berry name		<del>-</del>
Ridgeton	5	3
- 44-		
L41E: Lester	l   45	   3
202002	-5	
Kilkenny	40	3
Terril	   5	
Territ		] 3 
Derrynane	5	2
Ridgeton	5	3
L48A:	 	[ 
Derrynane, overwash	50	2
Derrynane	40 	2
Glencoe	l   5	   2
	i	
Terril	5	3
L49A:	 	
Klossner, surface	 	[ 
drained	65	10
İ	ļ i	
Klossner, drained	20	2н
Mineral soil, drained	   15	   2
	j	- 

Table 7.--Windbreak Suitability Groups--Continued

Map symbol and	Pct. of map unit	
component name		group
L50A: Houghton, surface drained	40	10
Muskego, surface	40	10
Klossner, drained	10	2Н
Mineral soil, drained	10	2
L51C2: Gladek, eroded	80	3
Barrington	10	3
Lester, eroded	5	3
Madelia	5	2
L56A: Muskego, frequently flooded	45	10
Klossner, frequently flooded	45	10
Suckercreek, frequently flooded	10	10
L57A:		
Medo, drained	80	2н
Mineral soil, drained	15	2
Houghton, drained	5	2н
L63A: Klossner	85	2
Lura	10	2
Brownton	5	2K
L64A: Tadkee	50	10
Tadkee, depressional	36	10
Better drained soil	8	1
Granby	4	10
Less sandy soil	2	10
L73A: Blue Earth	   80	2K
Belleville	10	2Κ
Canisteo	10	2K

Table 7.--Windbreak Suitability Groups--Continued

	Pct. of map unit	
component name		group
L74A: Estherville	87	     7
Hawick	10	7
Biscay	3	   2
L75B: Barrington	85	     3
Gladek	10	]   3
Madelia	5	   2
L76B: Dickinson	80	 
Litchfield	13	1
Darfur	5	2 
Clarion	2	3 
L77A: Brownton	75	2K
Marna	15	2 
Lura	10	2 
L78A: Canisteo	65	2K
Crippin	10	1K
Glencoe	10	2
Canisteo, depressional	5	2
Harps	5	2K
Webster	5	   2
L79B: Clarion	65	 
Clarion, eroded	25	3 
Nicollet	8	1
Webster	2	   2 
L80C2: Lester, eroded	75	 
Terril	10	   3 
Hamel	5	   2
Reedslake	5	   3 
Storden, eroded	5	   8 

Table 7.--Windbreak Suitability Groups--Continued

and	Pct. of map unit	suitability
component name		group
L80D2: Lester, eroded	     75	     3
Ridgeton	10	3
Storden, eroded	   8	8
Terril	   5	]   3
Hame1	   2 	   2
L81A:		[ 
Cordova	85 	2
Le Sueur	10	1
Rolfe	5	2 
L82A:	İ	
Marna	İ	2 
Barbert	10 	2 
Guckeen	<b>5</b>	4 
L83A: Webster	65	2
Glencoe	   15	       2
Canisteo	   10	   2k
Nicollet	   10	1
7047		
L84A: Glencoe	   80	2
Very poorly drained		[ 
muck	10	2
Canisteo	   5 	2K
Harps	   5 	2K
L85A:		
Nicollet	85 	1
Clarion	10	3 
Webster	5	2
L86A:	İ	
Madelia	90 	2 
Okoboji	5	2
Spicer	3	2K
Kingston	2	1 

Table 7.--Windbreak Suitability Groups--Continued

		 I
Map symbol and component name	Pct. of map unit	•
COMPONENC NAME		gioup
L87A: Kingston	85	1
Truman	10	3 
Madelia	5	2
L88A:	85	 
Brownton	10	2K
Organic soil	5	2
L89A: Guckeen	82	4 
Marna	10	2
Clarion clay loam	8	3 
L90A: Le Sueur	75	1   1
Cordova	13	2
Reedslake	12	3 
L91A: Mazaska	85	2   2
Lerdal	10	4 
Rolfe	5	2
L92A: Darfur	78	2
Fieldon	10	2K
Litchfield	5	1
Webster	5	2
Dassel	2	2 
L93A: Muskego	82	   2н 
Blue Earth	10	2K
Mineral soil, drained	5	2
Belleville	3	2K
L94A: Lowlein	75	1
Linder	15	   1 
Dickinson	8	   5 
Darfur	2	2 

Table 7.--Windbreak Suitability Groups--Continued

Map symbol and	Pct. of map unit	
component name		group
L95E: Hawick	     80	7
Estherville	   10	7
Tomall	   10	3
L96B: Estherville	   55 	7
Hawick	   35 	7
Tomall	   8 	3
Biscay	2	2
L97C: Hawick	   60	7
Estherville	   30 	7
Tomall	10	3
L98A: Crippin	50	1K
Nicollet	   40 	1
Canisteo	   5 	2 <b>K</b>
Clarion	   5 	3
L99B: Clarion	     62	3
Swanlake	   25 	8
Nicollet	   10	1
Webster	   3 	2
L100B: Clarion	     45	3
Estherville	35   35	7
Lowlein	   5 	1
Nicollet	5   5	1
Swanlake	5   5	8
Webster	5   5	2
L101C2: Omsrud, eroded	     40	3
Hawick	   30 	7
Storden, eroded	   20 	8
Delft	   5 	2
Terril	   5 	3

Table 7.--Windbreak Suitability Groups--Continued

and	Pct. of     map unit	suitability
component name		group
L101D2: Omsrud, eroded	40	3
Hawick	25	7
Storden, eroded	20	8
Ridgeton	6	3
Delft	5	2
Terril	4	3
L102C2: Omsrud, eroded	45	3
Storden, eroded	25	8
Omsrud	15	3
Terril	10	3
Delft	5	2
L102D2: Omsrud, eroded	45	3
Storden, eroded	20	8
Omsrud	15	3
Ridgeton	8	3
Delft	6	2
Terril	6	3
L103A: Fieldon	50	2K
Canisteo	35	2K
Darfur	10	2
Glencoe	5	2
L105C2: Lester, eroded	45	3
Hawick	35	7
Terril	10	3
Hamel	5	2
Storden, eroded	5	8
L105D2: Lester, eroded	   45	3
Hawick	35	7
Ridgeton	8	3

Table 7.--Windbreak Suitability Groups--Continued

<del></del>		
and	Pct. of map unit	suitability
component name		group
L105D2:	5	     2
Storden, eroded	5	8
Terril	2	   3
L106C2: Lester, eroded	62	 
Storden, eroded	20	8
Terril	10	3
Hamel	5	2
Reedslake	3	3
L106D2: Lester, eroded	62	3 
Storden, eroded	20	   8
Ridgeton	10	3 
Terril	5	3
Hamel	3	2 
L107A:		
Canisteo	50	2K
Glencoe	35	2
Harps	10	2K
Canisteo, depressional	3	2
Crippin	2	1K
L108A:		
Cordova	65 	2 
Rolfe	30	2 
Le Sueur	5	1 
L109A: Marna	65	             2
Barbert	30	2
Guckeen	5	 
L110E:		[ 
Lester	50	] 
Ridgeton	İ	] 
Cokato	10	] 
Belview	6	8 

Table 7.--Windbreak Suitability Groups--Continued

Map symbol and	   Pct. of     map unit	
component name		group
-110-		
L110E: Hamel	   2   	2
Terril	   2   	3
L110F:	j i	
Lester	j i	3
Ridgeton	30   	3
Cokato	j i	3
Belview	4 	8
Terril	2   	3
Hamel	1   	2
L111A: Nicollet	   85	1
Clarion	10	3
Webster	   5	2
L112A: Webster		2
Glencoe	j i	2     2
Nicollet	j i	, 2     1
NICOITEC	] 3	±
L113B: Reedslake	75	3
Le Sueur	10	1
Reedslake, eroded	10	3
Cordova	   5	2
L114A: Hanlon, rarely flooded	 	1
Coland, occasionally flooded	   10	2
Minneopa, rarely flooded	   5	1
L115A: Brownton	55	2K
Lura	   35	2
Marna	10	2
L116A: Le Sueur	 	1
Lerdal	   40	4
	I 1	

Table 7.--Windbreak Suitability Groups--Continued

	, ,	
and	   Pct. of     map unit	
component name		group
L116A: Mazaska	10	2
Kilkenny	5	3
L117C2: Omsrud, eroded	65	3
Omsrud	15	3
Terril	10	3
Delft	   5   	2
Storden, eroded	5	8
L118A: Rushriver, frequently flooded		2K
Houghton, frequently flooded	   5     1	2н
Klossner, frequently flooded	   5     1	2н
Medo, frequently flooded	   5     1	2
L119B: Angus	80	3
Angus, eroded	10	3
Cordova	   5	2
Le Sueur	   5	1
L120A: Good Thunder	   80	4
Ocheyedan	10	3
Minnetonka	10	2
L121B: Clarion	   80	3
Guckeen	15	4
Marna	5	2
L122B: Reedslake	           55	3
Estherville	25     25	7
Le Sueur	10	1
Cordova	   5   	2
Lowlein	5     5	1

Table 7.--Windbreak Suitability Groups--Continued

Map symbol and	Pct. of   map unit	Windbreak suitability
component name		group
L123A: Belleville	   85	2κ
Granby	15	2
L124A:	i	
Glencoe mucky clay	85	2
Canisteo	10	2K
Glencoe clay loam	5	2
L125A:		
Hanlon, rarely flooded	60	1
Coland, occasionally		
flooded	25	2
Minneopa, rarely		
flooded	15	1
L126A:		
Coland, occasionally	i	
flooded	80	2
Minneopa, occasionally	i	
flooded		1
Havelock, occasionally	i	
flooded		2K
Spillville,		
occasionally flooded	5	1
L127A:		
Coland, frequently	i	
flooded	80	2
	İ	
Minneopa, occasionally		
flooded	10   	1
Havelock, frequently		
flooded	5	2K
Spillville,		
occasionally flooded	5	1
L128A:		
Mazaska	60	2
Rolfe	30	2
Lerdal	10	4
7.100D	!	
L129B: Terril	90	3
Delft	5	2
Hamel	   5	2
		-

Table 7.--Windbreak Suitability Groups--Continued

Map symbol	Pct. of	Windbreak
and	map unit	suitability
component name		group
L130A:	į	
Okoboji mucky silty		
clay loam	75	2
Okoboji silty clay		
loam	15	2
Brownton	5	2K
	İ	
Spicer	5	2K
	i	
		· · · · · · · · · · · · · · · · · · ·

## Table 8a.--Recreation

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	 		   Picnic areas   		   Playgrounds   	
	İ L	Rating class and limiting features	Value 	Rating class and   limiting features	Value 	Rating class and limiting features	Value
GP: Pits, gravel	     80	    Not rated	   	    Not rated	   	    Not rated	   
Udipsamments	20	  Not rated	 	  Not rated	 	  Not rated	
L5A:	į	į I	į	į I	į i	 	į
Delft, overwash	   50       	Somewhat limited   Depth to   saturated zone   Restricted   permeability	  0.98    0.15	saturated zone	  0.75    0.15	Somewhat limited Depth to saturated zone Restricted permeability	0.98
Delft	   40       	Very limited Depth to saturated zone Restricted permeability	  1.00    0.15	saturated zone	  1.00    0.15	saturated zone	  1.00    0.15
Glencoe	   5     	  Very limited   Depth to   saturated zone   Ponding	  1.00    1.00	!	  1.00  1.00 	  Very limited   Depth to   saturated zone   Ponding	  1.00    1.00
Terril	   5   	Somewhat limited   Depth to   saturated zone	  0.01   	Not limited   	       	Somewhat limited   Slope   Depth to   saturated zone	0.50
L13A: Klossner, drained	   80           	  Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	    1.00    1.00    1.00	  Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	    1.00    1.00    1.00	organic matter	    1.00    1.00    1.00
Mineral soil, drained	   15     	  Very limited   Depth to   saturated zone   Ponding	    1.00    1.00	saturated zone	    1.00    1.00	  Very limited   Depth to   saturated zone   Ponding	1.00
Houghton, drained	   5         	   Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	  1.00    1.00    1.00	   Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	  1.00    1.00    1.00	   Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	  1.00    1.00    1.00
L14A: Houghton, drained	   80           	  Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	  1.00    1.00    1.00	  Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	  1.00    1.00    1.00	  Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	  1.00    1.00    1.00

Table 8a.--Recreation--Continued

component name	Pct. of map	   Camp areas 		   Picnic areas   		Playgrounds   		
	unit							
	 	Rating class and   limiting features		Rating class and limiting features		Rating class and limiting features	Value	
L14A:	 	 	 	 	 	 		
Klossner, drained	1 10	  Very limited	i	  Very limited	i	  Very limited	i	
	İ	Content of	1.00	Content of	1.00	Content of	1.00	
	ļ	organic matter		organic matter		organic matter	ļ	
	 	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00	
	 	Ponding	1.00	Ponding	1.00	Ponding	1.00	
Mineral soil,	 	 	l I	 	l I	 		
drained	1 10	  Very limited	i	  Very limited	i	  Very limited	i	
	İ	Depth to	1.00	Depth to	1.00	Depth to	1.00	
		saturated zone		saturated zone		saturated zone	!	
	 	Ponding	1.00 	Ponding 	1.00 	Ponding	1.00	
L15A:				İ		İ	i	
Klossner, ponded	30	• -	:	Very limited	:	Very limited		
		Ponding	11.00	!	1.00	•	1.00	
	 	Content of organic matter	1.00	Content or   organic matter	1.00	organic matter Ponding	1	
	! 	Depth to	1	!	1	Depth to	11.00	
	į	saturated zone		saturated zone		saturated zone		
Okoboji, ponded	   30	  Very limited	l I	  Very limited	 	  Very limited		
	İ	Ponding	1.00	! -	1.00	!	1.00	
	ĺ	Depth to	1.00	Depth to	1.00	Depth to	1.00	
		saturated zone		saturated zone		saturated zone	!	
		Restricted	0.15	Restricted	0.15	!	0.15	
	 	permeability 	 	permeability	 	permeability 		
Glencoe, ponded	30			Very limited	:	Very limited	į	
		Ponding	1.00	!	1.00	!	11.00	
	 	Depth to saturated zone	1.00 	Depth to saturated zone	1.00 	Depth to saturated zone	1.00 	
							i	
Houghton, ponded	10			Very limited		Very limited		
	 	Ponding Content of	1.00  1.00		1.00  1.00	!	1.00	
	l I	organic matter	1	organic matter	1	organic matter Ponding	1	
	i	Depth to	1.00	Depth to	1.00	Depth to	11.00	
	į	saturated zone	į	saturated zone	į	saturated zone	į	
L16A:	 	[ 	 	 	 	[ 		
Muskego, ponded	30	Very limited	İ	  Very limited	İ	Very limited	İ	
	ļ	Ponding	1.00	Ponding	1.00	•	1.00	
		Content of	1.00	!	1.00	!		
	 	organic matter Depth to	1.00	organic matter Depth to	1.00	Ponding Depth to	1.00	
	<u> </u>	saturated zone		saturated zone		saturated zone		
	į	Restricted	0.96	Restricted	0.96	•	0.96	
		permeability		permeability		permeability		
Blue Earth, ponded	I   30	  Very limited	 	  Very limited		  Very limited		
	İ	Ponding	1.00	Ponding	1.00	Ponding	1.00	
		Depth to	1.00	Depth to	1.00	Depth to	1.00	
	l	saturated zone		saturated zone		saturated zone	1	

Table 8a.--Recreation--Continued

Map symbol and component name	Pct. of map unit	i !		Picnic areas		Playgrounds   Playgrounds	
	   	Rating class and	Value	Rating class and   limiting features	Value	Rating class and   limiting features	Value
L16A: Houghton, ponded	   30         	  Very limited   Ponding   Content of   organic matter   Depth to   saturated zone	    1.00  1.00    1.00	  Very limited   Ponding   Content of   organic matter   Depth to   saturated zone	      1.00  1.00    1.00	  Very limited   Content of   organic matter   Ponding   Depth to   saturated zone	      1.00    1.00 
Klossner, ponded	   10           	Very limited   Ponding   Content of   organic matter   Depth to   saturated zone	  1.00  1.00    1.00	Very limited   Ponding   Content of   organic matter   Depth to   saturated zone	  1.00  1.00    1.00	  Very limited   Content of   organic matter   Ponding   Depth to   saturated zone	  1.00    1.00  1.00
L26B: Shorewood	   90         	  Somewhat limited   Depth to   saturated zone   Restricted   permeability	  0.98    0.60	  Somewhat limited   Depth to   saturated zone   Restricted   permeability	    0.75    0.60 	Somewhat limited   Depth to   saturated zone   Restricted   permeability   Slope	  0.98    0.60 
Good Thunder	   5       	   Somewhat limited   Restricted   permeability   Depth to   saturated zone	  0.43    0.01 	  Somewhat limited   Restricted   permeability   	    0.43     	   Somewhat limited   Restricted   permeability   Slope   Depth to   saturated zone	  0.43    0.03  0.01
Minnetonka	   5       	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.96 	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.96 	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96
L36A: Hamel, overwash	   50     	  Somewhat limited   Depth to   saturated zone   Restricted   permeability	    0.98    0.21	  Somewhat limited   Depth to   saturated zone   Restricted   permeability	    0.75    0.21	  Somewhat limited   Depth to   saturated zone   Restricted   permeability	    0.98    0.21
Hamel	43       	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.21	   Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21
Terril	   5 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	0.12
Glencoe	   2     	  Very limited   Depth to   saturated zone   Ponding 	    1.00    1.00	  Very limited   Depth to   saturated zone   Ponding 	    1.00    1.00	  Very limited   Depth to   saturated zone   Ponding 	  1.00    1.00
L40B: Angus	   45   	  Not limited   	     	  Not limited   	     	  Somewhat limited   Slope 	    0.50

Table 8a.--Recreation--Continued

component name	Pct. of map unit	-   		Picnic areas   		Playgrounds	
			Value	Rating class and	Value	Rating class and	Value
	<u> </u>	limiting features	<u> </u>	limiting features	<u> </u>	limiting features	<u> </u>
L40B: Kilkenny	     40     	  Somewhat limited   Depth to   saturated zone   Restricted   permeability	      0.88    0.21	saturated zone	      0.56    0.21	saturated zone	    0.88    0.21
	   		   		   	Slope	0.12
Lerdal	10         	Somewhat limited   Restricted   permeability   Depth to   saturated zone	  0.94    0.90 	permeability	  0.94    0.60 	Somewhat limited   Restricted   permeability   Depth to   saturated zone   Slope	  0.94    0.90 
Mazaska	   5       	saturated zone	    1.00    0.96	saturated zone	    1.00    0.96	  Very limited	    1.00    0.96
L41C2:	<u> </u>	 		! 		 	
Lester, eroded	45 	Somewhat limited   Slope	0.04	Somewhat limited   Slope	0.04	Very limited   Slope	1.00
Kilkenny, eroded	   40   	Restricted permeability	  0.21    0.04	permeability	  0.21    0.04	  Very limited   Slope   Restricted   permeability	  1.00  0.21
Terril	   10 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	    0.12
Derrynane	   5     	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.43	saturated zone	    1.00    0.43	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.43
L41D2:	 	 	 	 	 	 	 
Lester, eroded	45	Very limited   Slope	1.00	Very limited   Slope	1.00	Very limited   Slope	1.00
Kilkenny, eroded	   35     	Slope	    1.00  0.21		    1.00  0.21	  Very limited   Slope   Restricted   permeability	  1.00  0.21
Terril	   10 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	    0.12
Derrynane	   5     	saturated zone	  1.00    0.43	saturated zone	    1.00    0.43	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.43
Ridgeton	   5 	  Somewhat limited   Slope 	    0.16 	  Somewhat limited   Slope 	    0.16 	  Very limited   Slope 	    1.00

Table 8a.--Recreation--Continued

	Pct. of map	   Camp areas   		   Picnic areas   		   Playgrounds   	
	unit		Value	Rating class and	Value	   Rating class and	Value
	<u> </u>	limiting features	<u> </u>	limiting features	<u> </u>	limiting features	<u> </u>
L41E:	 	 	 	 		 	
Lester	   45 	  Very limited   Slope	1.00	  Very limited   Slope	1.00	  Very limited   Slope	1.00
Kilkenny	   40	  Very limited		  Very limited		  Very limited	¦
	   	Slope   Restricted   permeability	1.00  0.21 	· -	1.00  0.21 	Slope   Restricted   permeability	1.00  0.21 
Terril	   5 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	0.12
Derrynane	   5	  Very limited	l I	  Very limited	 	  Very limited	 
•	į	Depth to	1.00	! -	1.00		1.00
		saturated zone		saturated zone Restricted		saturated zone	
	 	Restricted   permeability	0.43	Restricted   permeability	0.43	Restricted   permeability	0.43
Ridgeton	   5 	  Somewhat limited   Slope	    0.96	  Somewhat limited   Slope	    0.96	  Very limited   Slope	    1.00
L48A:	 	 	l I	 	 	 	
Derrynane, overwash	   50 	Somewhat limited   Depth to   saturated zone	    0.98	  Somewhat limited   Depth to   saturated zone	0.75	  Somewhat limited   Depth to   saturated zone	0.98
	   	Restricted   permeability	0.43	Restricted   permeability	0.43	Restricted   permeability	0.43
Derrynane	   40 	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	1.00
	   	Restricted   permeability	0.43	Restricted   permeability	0.43	Restricted   permeability	0.43
Glencoe	   5	  Very limited	 	  Very limited		  Very limited	
	ļ	Depth to	1.00	Ponding	1.00	Depth to	1.00
	 	saturated zone Ponding	  1.00	Depth to saturated zone	1.00 	saturated zone Ponding	1.00
Terril	   5	  Not limited		  Not limited		  Somewhat limited	
	 	 	l I	 		Slope 	0.50 
L49A: Klossner, surface	 	 	 	 	<u> </u> 	 	
drained	65	!	:	Very limited	:	Very limited	
	 	Content of organic matter	1.00 	Content of organic matter	1.00 	Content of   organic matter	1.00 
	į	Depth to	1.00	Depth to	1.00	Depth to	1.00
	 	saturated zone Ponding	  1.00	saturated zone Ponding	  1.00	saturated zone Ponding	  1.00
Vloggnon desired		 		 		 	
Klossner, drained	l 20 	Very limited   Content of	1.00	Very limited   Content of	1.00	Very limited   Content of	1
	İ	organic matter	İ	organic matter	į	organic matter	į
	 	Depth to saturated zone	1.00 	Depth to saturated zone	1.00 	Depth to saturated zone	1.00 
	i	Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 8a.--Recreation--Continued

component name			   Picnic areas   		   Playgrounds 		
	unit	İ		<u> </u>		<u> </u>	
	 	Rating class and   limiting features	Value	Rating class and   limiting features		Rating class and   limiting features	Value
L49A: Mineral soil, drained	       15 	Depth to saturated zone	        1.00	    Very limited   Depth to   saturated zone	        1.00	    Very limited   Depth to   saturated zone	        1.00
L50A:	   	Ponding   	1.00 	Ponding   	1.00 	Ponding   	1.00
Houghton, surface drained	   40         	  Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	    1.00    1.00    1.00	  Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	    1.00    1.00    1.00	  Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	  1.00    1.00    1.00
Muskego, surface drained	   40         		  1.00    1.00    1.00  0.96		   1.00   1.00   1.00   1.00   0.96	Very limited   Content of   organic matter   Depth to   saturated zone   Ponding   Restricted   permeability	   1.00   1.00   1.00   0.96
Klossner, drained	   10         	Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	  1.00    1.00    1.00	Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	  1.00    1.00    1.00	Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	  1.00    1.00    1.00
Mineral soil, drained	     10       	  Very limited   Depth to   saturated zone   Ponding	    1.00    1.00	  Very limited   Depth to   saturated zone   Ponding	    1.00    1.00	  Very limited   Depth to   saturated zone   Ponding	    1.00    1.00
L51C2: Gladek, eroded	   80 	•	    0.04	  Somewhat limited   Slope		  Very limited   Slope	    1.00
Barrington	   10     	1	    0.01   	  Not limited     	       	  Somewhat limited   Slope   Depth to   saturated zone	  0.50  0.01
Lester, eroded	   5 	•	    0.04	  Somewhat limited   Slope	    0.04	  Very limited   Slope	1.00
Madelia	   5     	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	    1.00 

Table 8a.--Recreation--Continued

component name	Pct. of map unit			Picnic areas   		Playgrounds     	
	   		•	Rating class and   limiting features		Rating class and   limiting features	Value
L56A:						 	
Muskego, frequently	 	 		 	i i	 	1
flooded	45	  Very limited	i	  Very limited	i	  Very limited	i
	İ	Flooding	1.00	Ponding	1.00	Content of	1.00
	İ	Ponding	1.00	Content of	1.00	organic matter	i
		Content of	1.00	organic matter		Flooding	1.00
		organic matter		Depth to	1.00	Ponding	1.00
		Depth to	1.00	saturated zone		Depth to	1.00
		saturated zone		Restricted	0.96	saturated zone	
		Restricted	0.96	permeability		Restricted	0.96
	 	permeability	l I	Flooding	0.40	permeability	
Klossner, frequently	 	 		 	İ	 	i
flooded	45	Very limited		Very limited		Very limited	1
		Flooding	1.00	Ponding	1.00	Content of	1.00
		Ponding	1.00	Content of	1.00	organic matter	
	!	Content of	1.00			Flooding	1.00
		organic matter		Depth to	1.00	!	1.00
		Depth to	1.00	saturated zone		Depth to	1.00
	 	saturated zone		Flooding 	0.40 	saturated zone	
Suckercreek,	İ		İ	İ	İ	 	i
frequently flooded	10	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to	1.00	Flooding	1.00
		Depth to	1.00	saturated zone		Depth to	1.00
	 	saturated zone	l I	Flooding	0.40	saturated zone	
L57A:	¦	 	i	 		 	
Medo, drained	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00		1.00
	!	Content of	1.00	!	1.00	!	!
	!	organic matter		organic matter		Ponding	1.00
		Depth to	1.00	! -	1.00	Depth to	1.00
	 	saturated zone	 	saturated zone	 	saturated zone	
Mineral soil,	į	İ	į	İ	İ	İ	į
drained	15	<u> </u>	:	Very limited	:	Very limited	!
		Ponding	1.00	!	1.00	!	1.00
		Depth to	1.00		1.00	Depth to	1.00
	l I	saturated zone	 	saturated zone	 	saturated zone	
Houghton, drained	5	  Very limited	i	  Very limited	i	  Very limited	i
	į	Ponding	1.00	Ponding	1.00	Content of	1.00
	ĺ	Content of	1.00	Content of	1.00	organic matter	İ
		organic matter		organic matter		Ponding	1.00
		Depth to	1.00	Depth to	1.00	Depth to	1.00
	 	saturated zone		saturated zone		saturated zone	
L63A:	 	 		! 		 	
Klossner	85	Very limited	1	  Very limited		Very limited	İ
		Depth to	1.00	Ponding	1.00	Depth to	1.00
		saturated zone		Depth to	1.00	saturated zone	
		Ponding	1.00	saturated zone	ļ	Content of	1.00
	ļ	Content of	1.00	!	1.00		1
		organic matter		organic matter		Ponding	1.00

Table 8a.--Recreation--Continued

component name	Pct. of map	   Camp areas   		   Picnic areas   		   Playgrounds   	
	unit	Rating class and	Value	-	Value	Rating class and	Value
	l	limiting features	<u> </u>	limiting features	<u> </u>	limiting features	<del> </del>
L63A:		! 	i	! 	i	! 	i
Lura	10	  Very limited	i	Very limited	j	Very limited	i
		Depth to	1.00	Too clayey	1.00	! -	1.00
		saturated zone		Ponding	1.00	saturated zone	11.00
		Ponding   Too clayey	1.00	<u>.                                      </u>	1.00 	Too clayey	11.00
		Restricted	0.94	!	0.94	Restricted	0.94
		permeability	į i	permeability	į i	permeability	İ
Brownton	5	  Very limited	i	  Very limited	İ	  Very limited	i
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Restricted permeability	0.94	Restricted permeability	0.94	Restricted permeability	0.94
		permeability		permeability		permeability	
L64A:			ĺ		į		İ
Tadkee	50	Very limited   Depth to	:	Very limited	:	Very limited	11 00
		saturated zone	1.00	Depth to saturated zone	1.00 	Depth to saturated zone	1.00
		Too sandy	0.89	Too sandy	0.89	Too sandy	0.89
Tadkee, depressional	   36	  Very limited	 	  Very limited	 	  Very limited	
· -		Depth to	1.00	Ponding	1.00	Depth to	1.00
		saturated zone	[	Depth to	1.00	saturated zone	
		Ponding	1.00	saturated zone		Ponding	1.00
		Too sandy 	0.89 	Too sandy 	0.89 	Too sandy 	0.89 
Better drained soil	8	Somewhat limited	İ	  Somewhat limited	İ	  Somewhat limited	i
		Too sandy	0.46	<u>-</u>	0.46	Too sandy	0.46
		Depth to saturated zone	0.01	 		Slope   Depth to	0.03  0.01
		saturated zone				saturated zone	
Granby	   4	  Very limited	 	  Very limited	 	  Very limited	
22	_	Depth to	1.00	Ponding	1.00	Depth to	1.00
		saturated zone	İ	Depth to	1.00	saturated zone	İ
		Ponding	1.00	!		Ponding	1.00
		Too sandy 	0.89 	Too sandy 	0.89 	Too sandy	0.89 
Less sandy soil	2	  Very limited	İ	  Very limited	İ	  Very limited	i
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone Too sandy	  0.89	saturated zone Too sandy	  0.89	saturated zone Too sandy	  0.89
		100 sandy 		100 sandy		100 sandy 	
L73A:		İ	į		į		į
Blue Earth	80	! -	:	Very limited	:	Very limited	
		Depth to saturated zone	1.00	Ponding Depth to	1.00  1.00	<u> </u>	1.00
		Ponding	1.00	<u> </u>		Ponding	1.00
Belleville	   10	  Very limited		  Very limited	 	  Very limited	
PC11641116	±0	Depth to	1.00		1.00	:	1
		saturated zone	i	saturated zone		saturated zone	i
		Restricted	0.21	!	0.21	!	0.21
		permeability		permeability	 	permeability	
Canisteo	10	  Very limited		  Very limited		  Very limited	
		Depth to	1.00	<u> </u>	1.00	<u> </u>	1.00
		saturated zone		saturated zone		saturated zone	1

Table 8a.--Recreation--Continued

component name	Pct. of map unit	   		Picnic areas   		Playgrounds     	
	unite 	'		Rating class and   limiting features	•	Rating class and   limiting features	
L74A: Estherville	     87	    Not limited	   	    Not limited	   	    Not limited	
Hawick	   10   	  Not limited   	     	  Not limited   	     	  Somewhat limited   Gravel content   Slope	  0.90  0.12
Biscay	   3   	! -	1.00	! -	1.00	  Very limited   Depth to   saturated zone 	    1.00 
L75B: Barrington	   85     	  Somewhat limited   Depth to   saturated zone	0.01	  Not limited   	       	  Somewhat limited   Slope   Depth to   saturated zone	    0.50  0.01
Gladek	   10 	•		  Somewhat limited   Slope	:	  Very limited   Slope	1   1.00
Madelia	   5   		1.00		1.00	  Very limited   Depth to   saturated zone 	    1.00 
L76B: Dickinson	     80 	  Not limited 	     	  Not limited 	     	  Somewhat limited   Slope	0.50
Litchfield	   13     	Depth to saturated zone	1.00	Depth to	0.92	  Very limited   Depth to   saturated zone   Too sandy	  1.00    0.92
Darfur	   5   		1.00		1.00	  Very limited   Depth to   saturated zone	1.00
Clarion	   2 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	0.50
L77A: Brownton	     75       	Depth to saturated zone		  Very limited   Depth to   saturated zone   Restricted   permeability		  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.94
Marna	   15       	Depth to saturated zone	  1.00    0.96	saturated zone	  1.00    0.96	saturated zone	  1.00    0.96
Lura	   10             	saturated zone Ponding Too clayey	  1.00    1.00  1.00  0.94	Ponding Depth to saturated zone	:	Too clayey Ponding	  1.00    1.00  1.00  0.94

Table 8a.--Recreation--Continued

component name	Pct. of map			   Picnic areas   		   Playgrounds   	
	unit   		Value	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value
L78A: Canisteo	     65 		      1.00	    Very limited   Depth to   saturated zone	      1.00	    Very limited   Depth to   saturated zone	      1.00
Crippin	   10   		    0.99 	  Somewhat limited   Depth to   saturated zone	    0.78 	  Somewhat limited   Depth to   saturated zone	    0.99 
Glencoe	   10       	Depth to saturated zone	    1.00    1.00	Depth to	    1.00  1.00 	: -	  1.00    1.00
Canisteo, depressional	5   5     	Depth to saturated zone	    1.00    1.00	Depth to	    1.00  1.00 	: -	    1.00    1.00
Harps	   5   			  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone	1.00
Webster	   5   	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 
L79B: Clarion	     65 	    Not limited   	     	    Not limited   		    Somewhat limited   Slope	0.50
Clarion, eroded	   25 	  Not limited   	     	  Not limited   		  Somewhat limited   Slope 	0.50
Nicollet	   8   	   Very limited   Depth to   saturated zone	    0.99 	  Somewhat limited   Depth to   saturated zone	  0.78 	  Somewhat limited   Depth to   saturated zone	  0.99 
Webster	   2   	  Very limited   Depth to   saturated zone	  1.00 	  Very limited   Depth to   saturated zone 	  1.00 	  Very limited   Depth to   saturated zone 	  1.00 
L80C2: Lester, eroded	   75 	!	    0.04	  Somewhat limited   Slope	0.04	  Very limited   Slope	1.00
Terril	   10 	  Not limited 	 	  Not limited 	   	  Somewhat limited   Slope	0.88
Hamel	   5       	saturated zone	    1.00    0.21 	saturated zone	  1.00    0.21 	saturated zone	  1.00    0.21    0.12
Reedslake	   5 	  Not limited   	     	  Not limited   	   	  Somewhat limited   Slope 	    0.50 

Table 8a.--Recreation--Continued

	Pct. of map	Camp areas   		Picnic areas   		Playgrounds   	
	unit	i		İ		İ	
	 	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and   limiting features	Value
L80C2: Storden, eroded	     5 	    Somewhat limited   Slope	      0.04	    Somewhat limited   Slope 	      0.04	    Very limited   Slope	      1.00
L80D2: Lester, eroded	     75 	! -	      1.00	    Very limited   Slope	1.00	    Very limited   Slope	1.00
Ridgeton	   10 	!	    0.63	  Somewhat limited   Slope	0.63	  Very limited   Slope	1   1.00
Storden, eroded	   8 	! -	1   1.00	  Very limited   Slope	1.00	  Very limited   Slope	1   1.00
Terril	   5     	  Somewhat limited   Depth to   saturated zone 	  0.01     	  Not limited       	       	  Somewhat limited   Slope   Depth to   saturated zone	  0.88  0.01 
Hamel	2           	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21 	saturated zone	  1.00    0.21 	Very limited   Depth to   saturated zone   Restricted   permeability   Slope	  1.00    0.21    0.12
L81A: Cordova	   85       	Depth to saturated zone	    1.00    0.21	saturated zone	    1.00    0.21	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21
Le Sueur	   10   		    0.99 	  Somewhat limited   Depth to   saturated zone	    0.78 	  Somewhat limited   Depth to   saturated zone	    0.99 
Rolfe	   5         	  Very limited   Depth to   saturated zone   Ponding   Restricted   permeability	  1.00    1.00  0.96	Depth to saturated zone	  1.00  1.00    0.96	  Very limited   Depth to   saturated zone   Ponding   Restricted   permeability	  1.00    1.00  0.96
L82A: Marna	   85         	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.96	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.96	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96
Barbert	   10           		  1.00    1.00  0.94	•	  1.00  1.00    0.94	  Very limited   Depth to   saturated zone   Ponding   Restricted   permeability	  1.00    1.00  0.94 

Table 8a.--Recreation--Continued

component name	  Pct.   of  map  unit	 		   Picnic areas   		   Playgrounds   	
	unit   	'	:	Rating class and   limiting features		Rating class and limiting features	Value
L82A: Guckeen	   5     	permeability	    0.43    0.01	permeability	      0.43   	  Somewhat limited   Restricted   permeability   Depth to   saturated zone	    0.43    0.01
L83A:	 	 	l I	 	l I	 	1
Webster	   65   	: -	  1.00 	  Very limited   Depth to   saturated zone	  1.00 	  Very limited   Depth to   saturated zone	1.00
Glencoe	   15   	Depth to saturated zone	1.00	Depth to	    1.00  1.00	saturated zone	    1.00
Canisteo	     10	  Very limited	1.00      1.00	  Very limited	      1.00	Ponding    Very limited   Depth to	1.00      1.00
		saturated zone		saturated zone		saturated zone	
Nicollet	   10   	! - T	    0.99 	  Somewhat limited   Depth to   saturated zone	    0.78 	  Somewhat limited   Depth to   saturated zone	    0.99 
L84A:	 	 	 	 	 	 	
Glencoe	80     	Depth to saturated zone	  1.00    1.00	Depth to		Very limited   Depth to   saturated zone   Ponding	  1.00    1.00
Very poorly drained		 		 		 	
muck	10   	Depth to saturated zone	1.00	Depth to	  1.00  1.00	saturated zone	  1.00 
	   	!	1.00  1.00 	1	  1.00 	Content of organic matter Ponding	1.00    1.00
Canisteo	   5   	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	    1.00	  Very limited   Depth to   saturated zone	    1.00
Harps	   5   	! -	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00
L85A: Nicollet	     85   	! -	:	  Somewhat limited   Depth to   saturated zone	!	  Somewhat limited   Depth to   saturated zone	      0.99
Clarion	   10 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	    0.50
Webster	   5   	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	    1.00 

Table 8a.--Recreation--Continued

component name	  Pct.   of  map  unit	- 		   Picnic areas     		   Playgrounds     	
	   	'	•	Rating class and   limiting features		Rating class and limiting features	
	ļ		ļ				
L86A: Madelia	   90   		1.00	•	1.00	  Very limited   Depth to   saturated zone	    1.00
Okoboji	:		•	•		  Very limited   Depth to	    1.00
	     	•	1.00	saturated zone	İ	:	  1.00  0.15 
Spicer	   3 		1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	    1.00
Kingston	   2 		0.99	  Somewhat limited   Depth to   saturated zone	0.78	  Somewhat limited   Depth to   saturated zone	    0.99 
L87A:	 	 		 	l i	 	
Kingston	   85   		0.99	!	0.78	  Somewhat limited   Depth to   saturated zone	    0.99 
Truman	   10 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	0.50
Madelia	   5     		1.00	  Very limited   Depth to   saturated zone 	1.00	  Very limited   Depth to   saturated zone 	    1.00 
L88A:	i		i	İ	i	İ	i
Lura	85             	Depth to saturated zone Ponding Too clayey Restricted	1.00    1.00  1.00	Too clayey Ponding Depth to saturated zone Restricted	1.00  1.00  1.00    0.94	Ponding	  1.00    1.00  1.00  0.94
Brownton	   10       	Very limited Depth to saturated zone Restricted permeability	  1.00    0.94	saturated zone	  1.00    0.94	saturated zone	  1.00    0.94
Organic soil	   5         	  Very limited   Depth to   saturated zone   Ponding   Content of   organic matter	  1.00    1.00  1.00	Depth to saturated zone	  1.00  1.00    1.00	saturated zone Content of	  1.00    1.00    1.00
L89A: Guckeen	   82   82     	  Very limited   Depth to   saturated zone   Restricted   permeability	    0.99    0.43	saturated zone	      0.78    0.43	saturated zone	    0.99    0.43

Table 8a.--Recreation--Continued

Map symbol and component name	  Pct.   of	   Camp areas		   Picnic areas		   Playgrounds	
	map  unit	 		 		 	
	<u> </u>	'	Value	Rating class and limiting features		Rating class and   limiting features	Value
L89A:	 	 	 	 	 	 	
Marna	10       	Very limited Depth to saturated zone Restricted permeability	  1.00    0.96	Very limited Depth to saturated zone Restricted permeability	  1.00    0.96	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96
Clarion clay loam	   8 	    Not limited 	     	    Not limited 	     	    Somewhat limited   Slope	      0.50
L90A:		 	 	 	 	 	
Le Sueur	75   	  Very limited   Depth to   saturated zone	  0.99 	Somewhat limited   Depth to   saturated zone	  0.78 	Somewhat limited   Depth to   saturated zone	  0.99 
Cordova	   13   	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00
		Restricted permeability	0.21	Restricted permeability	0.21	Restricted   permeability	0.21
Reedslake	   12 	  Not limited   	     	  Not limited   	     	  Somewhat limited   Slope 	    0.50
L91A:	į	İ	į	İ	į	į	į
Mazaska	85       	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96
Lerdal	   10       	  Somewhat limited   Restricted   permeability   Depth to   saturated zone	    0.94    0.90	  Somewhat limited   Restricted   permeability   Depth to   saturated zone	    0.94    0.60	  Somewhat limited   Restricted   permeability   Depth to   saturated zone	  0.94    0.90
Rolfe	   5       	Very limited   Depth to   saturated zone   Ponding   Restricted   permeability	    1.00    1.00  0.96	Depth to saturated zone	  1.00  1.00    0.96	Very limited   Depth to   saturated zone   Ponding   Restricted   permeability	  1.00    1.00  0.96
L92A:		 	 	 		 	
Darfur	78   		1.00	Very limited   Depth to   saturated zone	1.00	Very limited   Depth to   saturated zone	  1.00 
Fieldon	   10   	! - T	1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	1.00
Litchfield	   5   	saturated zone	1.00	Too sandy Depth to	0.92	  Very limited   Depth to   saturated zone   Too sandy	  1.00    0.92
Webster	   5   	  Very limited	      1.00	    Very limited	i I	Yery limited   Depth to   saturated zone	      1.00 

Table 8a.--Recreation--Continued

component name	Pct. of	 		   Picnic areas 		   Playgrounds 	
	unit   		Value	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value
L92A: Dassel	     2   	saturated zone	      1.00    1.00	saturated zone	      1.00 	  Very limited   Depth to   saturated zone   Ponding	      1.00 
L93A: Muskego	     82         	  Very limited   Depth to   saturated zone   Ponding	i I	  Very limited   Ponding   Depth to   saturated zone   Content of   organic matter		  Very limited   Depth to   saturated zone   Content of   organic matter   Ponding	    1.00    1.00    1.00
Blue Earth	     10     	permeability    Very limited   Depth to   saturated zone	i I	permeability    Very limited   Ponding		permeability Very limited	        1.00    1.00
Mineral soil, drained	     5   	!	      1.00  1.00	!	      1.00  1.00	  Very limited   Ponding   Depth to   saturated zone	    1.00  1.00
Belleville	   3     	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21
L94A: Lowlein	     75   	    Somewhat limited   Depth to   saturated zone	      0.01	    Not limited   	       	    Somewhat limited   Depth to   saturated zone	      0.01
Linder	   15   	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Depth to   saturated zone	    0.90 	  Very limited   Depth to   saturated zone	    1.00
Dickinson	   8 	  Not limited   	   	  Not limited   	   	  Somewhat limited   Slope	    0.50
Darfur	   2   	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	1.00
L95E: Hawick	     80   	Slope	    1.00  0.01	!	    1.00  0.01	!	1.00
Estherville	   10 	! =	    1.00	  Very limited   Slope	    1.00	  Very limited   Slope	    1.00
Tomall	   10 	  Not limited 	   	  Not limited 	   	  Not limited 	   

Table 8a.--Recreation--Continued

component name	  Pct.   of  map	- 		   Picnic areas 		   Playgrounds 	
	unit   		•	   Rating class and   limiting features		Rating class and limiting features	Value
L96B: Estherville	     55 	    Not limited 	     	    Not limited 	     	    Somewhat limited   Slope	      0.50
Hawick	   35   	  Not limited   	     	  Not limited   		  Somewhat limited   Gravel content   Slope	    0.90  0.50
Tomall	8	  Not limited	 	  Not limited		  Not limited	 
Biscay	   2   	  Very limited   Depth to   saturated zone	•	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone	    1.00 
L97C: Hawick	   60 	!	!	    Somewhat limited   Slope 		  Very limited   Slope   Gravel content	    1.00  0.90
Estherville	   30 	!	:	  Somewhat limited   Slope		  Very limited   Slope	    1.00
Tomall	10	  Not limited	   	  Not limited	 	  Not limited	
L98A: Crippin	     50 	:	:	    Somewhat limited   Depth to   saturated zone	0.78	  Somewhat limited   Depth to   saturated zone	      0.99
Nicollet	   40 	! -	:	  Somewhat limited   Depth to   saturated zone	0.78	  Somewhat limited   Depth to   saturated zone	    0.99 
Canisteo	   5   	! -	:	:	1.00	  Very limited   Depth to   saturated zone	    1.00 
Clarion	   5 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	    0.50
L99B: Clarion	     62 	    Not limited 	     	    Not limited 	     	    Somewhat limited   Slope	      0.50
Swanlake	   25 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	    0.88
Nicollet	   10   	! -	    0.99 	  Somewhat limited   Depth to   saturated zone	    0.78 	  Somewhat limited   Depth to   saturated zone	    0.99 
Webster	   3   	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	1	  Very limited   Depth to   saturated zone	    1.00 
L100B: Clarion	     45 	    Not limited   	       	    Not limited   	       	    Somewhat limited   Slope 	      0.50
Estherville	35   	  Not limited   	     	  Not limited   	   	  Somewhat limited   Slope 	0.50

Table 8a.--Recreation--Continued

component name	Pct. of map unit	 	Picnic areas   		Playgrounds     		
	   		•	Rating class and   limiting features		Rating class and limiting features	
L100B: Lowlein	:	•	0.01	    Not limited   	       	  Somewhat limited   Depth to   saturated zone	      0.01
Nicollet	:		0.99	  Somewhat limited   Depth to   saturated zone	0.78	  Somewhat limited   Depth to   saturated zone	    0.99 
Swanlake	   5 	  Not limited 		  Not limited 	   	  Somewhat limited   Slope	0.50
Webster	   5     		1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	    1.00 
L101C2: Omsrud, eroded	     40 	•		    Somewhat limited   Slope 		    Very limited   Slope 	1.00
Hawick	30   				:	   Very limited   Slope   Gravel content	  1.00  0.90
Storden, eroded	   20 	:	:	•		  Very limited   Slope	1
Delft	:	Depth to saturated zone	1.00	Depth to saturated zone	1.00	   Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.15
Terril	   5 	  Not limited   	     	  Not limited   	     	  Somewhat limited   Slope 	    0.50
L101D2: Omsrud, eroded	     40 	! -	:	    Very limited   Slope	1	    Very limited   Slope	    1.00
Hawick	   25   	  Very limited   Slope 	1.00	  Very limited   Slope 		  Very limited   Slope   Gravel content	1.00
Storden, eroded	   20 	! -	1.00	  Very limited   Slope	    1.00	  Very limited   Slope	1.00
Ridgeton	   6 	  Somewhat limited   Slope	0.63	  Somewhat limited   Slope	    0.63	  Very limited   Slope	1.00
Delft	   5     	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.15	saturated zone	    1.00    0.15	saturated zone	  1.00    0.15
Terril	   4     	  Somewhat limited   Depth to   saturated zone 	    0.01   	  Not limited       	         	  Somewhat limited   Slope   Depth to   saturated zone	  0.88  0.01 

Table 8a.--Recreation--Continued

component name	Pct. of map unit	 		Picnic areas   		Playgrounds     	
	   		•	Rating class and   limiting features	•	Rating class and   limiting features	Value
L102C2: Omsrud, eroded	     45 	•	      0.04	    Somewhat limited   Slope	      0.04	    Very limited   Slope	
Storden, eroded	   25 		0.04	  Somewhat limited   Slope	:	  Very limited   Slope	1.00
Omsrud	   15 		!	  Somewhat limited   Slope	    0.04	  Very limited   Slope	    1.00
Terril	   10 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	    0.50
Delft	   5     	saturated zone	!	saturated zone	:	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.15
L102D2: Omsrud, eroded	     45 		•	    Very limited   Slope		    Very limited   Slope	      1.00
Storden, eroded	   20 	! =	:	  Very limited   Slope	1	  Very limited   Slope	1
Omsrud	   15 	! =	    1.00	  Very limited   Slope	:	  Very limited   Slope	    1.00
Ridgeton	   8 		:	:	    0.63	  Very limited   Slope	    1.00
Delft	   6     	saturated zone	1.00	saturated zone	1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.15
Terril	   6     	  Somewhat limited   Depth to   saturated zone	    0.01   	  Not limited     	       	  Somewhat limited   Slope   Depth to   saturated zone	  0.88  0.01
L103A: Fieldon	     50 		1.00	  Very limited   Depth to   saturated zone	•	  Very limited   Depth to   saturated zone	    1.00
Canisteo	   35   		1.00	  Very limited   Depth to   saturated zone	•	  Very limited   Depth to   saturated zone	    1.00 
Darfur	   10     		1.00	  Very limited   Depth to   saturated zone	•	  Very limited   Depth to   saturated zone	    1.00 
Glencoe	5   5     	saturated zone	1.00	Depth to	•	  Very limited   Depth to   saturated zone   Ponding	  1.00    1.00

Table 8a.--Recreation--Continued

component name	  Pct.   of  map  unit	- 		   Picnic areas   		   Playgrounds   	
	 	'		Rating class and limiting features		Rating class and limiting features	Value
L105C2: Lester, eroded	     45 	•	•	    Somewhat limited   Slope	1	    Very limited   Slope	      1.00
Hawick	   35   	•	•	  Somewhat limited   Slope 		  Very limited   Slope   Gravel content	  1.00  0.90
Terril	   10 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	0.50
Hamel	   5       	Depth to saturated zone	1.00	Depth to saturated zone	1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21
Storden, eroded	   5   	•	•	:	1	  Very limited   Slope 	    1.00
L105D2: Lester, eroded	:	:	1	•		  Very limited   Slope	    1.00
Hawick	   35   	! -	:	! -	:	  Very limited   Slope   Gravel content	  1.00  0.90
Ridgeton	   8 	:	1	:	1	  Very limited   Slope	1.00
Hamel	:	Depth to saturated zone	1.00	Depth to saturated zone	1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21
Storden, eroded	   5 	:	1	:	1	  Very limited   Slope	1.00
Terril	   2     	  Somewhat limited   Depth to   saturated zone	  0.01   	  Not limited     	       	  Somewhat limited   Slope   Depth to   saturated zone	  0.88  0.01
L106C2: Lester, eroded	     62 	•	0.04	    Somewhat limited   Slope	      0.04	    Very limited   Slope	1.00
Storden, eroded	   20 	  Somewhat limited   Slope	0.04	  Somewhat limited   Slope	0.04	  Very limited   Slope	1 1.00
Terril	   10 	  Not limited 		  Not limited 	   	  Somewhat limited   Slope	    0.50
Hamel	   5       	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21	saturated zone	1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21

Table 8a.--Recreation--Continued

component name	  Pct.   of  map	į		   Picnic areas   		   Playgrounds   	
	unit	İ	lvalue	 	lvalue	 	172112
				Rating class and limiting features		limiting features	Value
L106C2: Reedslake	     3 	    Not limited 	     	    Not limited 	     	    Somewhat limited   Slope	      0.50
L106D2: Lester, eroded	     62 	! -	      1.00	  Very limited   Slope	      1.00	    Very limited   Slope	1
Storden, eroded	   20 	! -	1   1.00	  Very limited   Slope	1   1.00	  Very limited   Slope	1.00
Ridgeton	   10 	!	    0.63	  Somewhat limited   Slope	0.63	  Very limited   Slope	1
Terril	   5   		    0.01   	  Not limited     	       	  Somewhat limited   Slope   Depth to   saturated zone	  0.88  0.01
Hamel	   3     	saturated zone	    1.00    0.21	saturated zone	    1.00    0.21	saturated zone	  1.00    0.21
L107A: Canisteo	     50 	! -	      1.00	    Very limited   Depth to	      1.00	    Very limited   Depth to	      1.00
	   	saturated zone		saturated zone		saturated zone	
Glencoe	35   	! -	  1.00    1.00	Depth to	  1.00  1.00	<u> </u>	  1.00    1.00
Harps	   10   	! -	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 
Canisteo,							
depressional	3     	Depth to saturated zone	  1.00    1.00	Very limited   Ponding   Depth to   saturated zone	  1.00  1.00 	:	  1.00    1.00
Crippin	   2 	  Very limited   Depth to   saturated zone	    0.99 	  Somewhat limited   Depth to   saturated zone	    0.78 	  Somewhat limited   Depth to   saturated zone	    0.99 
L108A: Cordova	     65     	Depth to saturated zone	      1.00    0.21	saturated zone	      1.00    0.21	saturated zone	    1.00    0.21

Table 8a.--Recreation--Continued

component name	Pct. of map unit	 		Picnic areas     		Playgrounds     	
	   	'		Rating class and   limiting features		Rating class and   limiting features	Value
	ļ	<u> </u>	ļ	<u> </u>	ļ	ļ	ļ
L108A: Rolfe	   30 	Depth to	    1.00		1.00	  Very limited   Depth to	1.00
	     	!	  1.00  0.96 	saturated zone	1.00    0.96	Ponding	  1.00  0.96 
Le Sueur	   5   	  Very limited   Depth to   saturated zone	    0.99 	  Somewhat limited   Depth to   saturated zone	:	  Somewhat limited   Depth to   saturated zone	    0.99 
L109A:	 	 	 	 	 	 	
Marna	65       	Depth to saturated zone	  1.00    0.96	saturated zone	:	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96
Barbert	30	  Very limited   Depth to	      1.00	  Very limited   Ponding	1.00	  Very limited   Depth to	1.00
	     	!	  1.00  0.94 	saturated zone	1.00    0.94	Ponding	  1.00  0.94 
Guckeen	   5     	saturated zone		   Somewhat limited   Depth to   saturated zone   Restricted   permeability	•	   Somewhat limited   Depth to   saturated zone   Restricted   permeability	  0.99    0.43
L110E:	l I	 	 	 	 	 	
Lester	50 	! -	  1.00	Very limited   Slope	1.00	Very limited   Slope	  1.00
Ridgeton	30	! -	1.00	  Very limited   Slope	!	  Very limited   Slope	1.00
Cokato	10	  Very limited   Slope	1.00	  Very limited   Slope	1.00	  Very limited   Slope	1.00
Belview	   6 	  Very limited   Slope	    1.00	  Very limited   Slope	1 1.00	  Very limited   Slope	    1.00
Hamel	   2 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00
	   	Restricted   permeability 	0.21   	Restricted   permeability 	0.21   	Restricted   permeability   Slope	0.21    0.12
Terril	   2 	  Not limited   	     	  Not limited   	     	  Somewhat limited   Slope 	    0.88
L110F: Lester	   55   	  Very limited   Slope 	    1.00	  Very limited   Slope 	    1.00	  Very limited   Slope 	    1.00

Table 8a.--Recreation--Continued

Map symbol and	  Pct.	   Camp areas		   Picnic areas		   Playgrounds	
component name	of map unit	 		 			
	   	'		Rating class and limiting features		Rating class and limiting features	Value
L110F:						 	
Ridgeton	   30 	! -	1 1.00	  Very limited   Slope	1.00	  Very limited   Slope	1.00
Cokato	   8 	  Very limited   Slope	:	  Very limited   Slope		  Very limited   Slope	1.00
Belview	   4 	  Very limited   Slope		  Very limited   Slope	1.00	  Very limited   Slope	1.00
Terril	   2 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	    0.88
Hamel	   1     	saturated zone	:	saturated zone		  Very limited   Depth to   saturated zone   Restricted	  1.00    0.21
	 	permeability 	 	permeability	 	permeability Slope	  0.12
L111A: Nicollet	     85   	! - T	      0.99	  Somewhat limited   Depth to   saturated zone	      0.78	  Somewhat limited   Depth to   saturated zone	      0.99
Clarion	   10 	  Not limited 	 	  Not limited 	 	  Somewhat limited   Slope	    0.50
Webster	   5   	! -	:	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone	    1.00
L112A: Webster	     85   	! -	:	  Very limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone	1   1.00
Glencoe	   10     	Depth to saturated zone	    1.00    1.00	Depth to	  1.00  1.00	•	  1.00    1.00
Nicollet	   5   	  Very limited   Depth to   saturated zone	    0.99 	  Somewhat limited   Depth to   saturated zone	    0.78 	  Somewhat limited   Depth to   saturated zone	    0.99 
L113B: Reedslake	     75 	    Not limited 	     	    Not limited 	     	    Somewhat limited   Slope	      0.50
Le Sueur	   10   	! -	    0.99 	  Somewhat limited   Depth to   saturated zone	    0.78 	  Somewhat limited   Depth to   saturated zone	    0.99 
Reedslake, eroded	   10   	  Not limited   	     	  Not limited   	     	  Somewhat limited   Slope 	    0.88 

Table 8a.--Recreation--Continued

Map symbol and component name	Pct. of map	Camp areas   		Picnic areas		Playgrounds	
	unit			<u> </u>		<u> </u>	
	 	Rating class and limiting features	Value 	Rating class and limiting features	Value 	Rating class and limiting features	Value
r 11 2 D							
L113B: Cordova	   5 	  Very limited   Depth to	1.00	! -	1.00	! -	1 1.00
	   	saturated zone   Restricted   permeability	0.21	saturated zone   Restricted   permeability	0.21	saturated zone   Restricted   permeability	0.21
L114A:	 	 	l I	 	 	 	
Hanlon, rarely flooded	     85   	Flooding	    1.00  0.01	  Not limited   	;       	  Somewhat limited   Depth to   saturated zone	    0.01
	i	saturated zone	İ	İ	İ	İ	i
Coland, occasionally flooded	:	    Very limited   Flooding	      1.00	    Very limited   Depth to	      1.00	    Very limited   Depth to	      1.00
	 	Depth to	1.00	! -		saturated zone	
	İ	saturated zone	į	ĺ	į	Flooding	0.60
Minneopa, rarely flooded	     5	    Very limited	!	    Not limited	   	    Somewhat limited	   
	     	!	1.00  0.01 	   	     	Depth to   saturated zone   	0.01   
L115A:	İ	İ	i	İ	İ	İ	i
Brownton	55	! -	:	Very limited	:	Very limited	
	 	Depth to saturated zone	1.00 	Depth to saturated zone	1.00 	Depth to saturated zone	1.00 
	 	Restricted permeability	0.94	Restricted permeability	0.94	Restricted permeability	0.94
Lura	35	  Very limited		  Very limited		  Very limited	
	ļ	Depth to	1.00	Too clayey	1.00	: -	1.00
		saturated zone Ponding	11.00	Ponding Depth to	1.00	saturated zone Too clayey	11.00
	i	!	1.00	saturated zone		Ponding	11.00
	<u> </u> 	Restricted permeability	0.94	Restricted permeability	0.94	Restricted permeability	0.94
Marna	   10	  Very limited	 	  Very limited	 	  Very limited	
	İ	Depth to	1.00		1.00	Depth to	1.00
		saturated zone Restricted	  0.96	saturated zone	  0.96	saturated zone	
		restricted   permeability		Restricted   permeability		Restricted   permeability	0.96
L116A:	 	 	 	 	 	 	
Le Sueur	   45 	  Very limited   Depth to   saturated zone	0.99	Somewhat limited   Depth to   saturated zone	0.78	Somewhat limited   Depth to   saturated zone	0.99
	i						i
Lerdal	40   	Somewhat limited   Restricted   permeability	  0.94 	Somewhat limited   Restricted   permeability	  0.94 	Somewhat limited   Restricted   permeability	  0.94 
	i	Depth to	0.90	:	0.60	Depth to	0.90
	I	saturated zone	I	saturated zone		saturated zone	1

Table 8a.--Recreation--Continued

component name	Pct. of map	Camp areas   		Picnic areas   		Playgrounds   	
	unit	'	Value	   Rating class and   limiting features		   Rating class and   limiting features	Value
							1
L116A: Mazaska	   10 	! -	      1.00	  Very limited   Depth to	    1.00	  Very limited   Depth to	    1.00
	   	saturated zone   Restricted   permeability	  0.96 	saturated zone   Restricted   permeability	  0.96 	saturated zone Restricted permeability	  0.96 
Kilkenny	   5 	  Somewhat limited   Depth to   saturated zone	    0.88	  Somewhat limited   Depth to   saturated zone	    0.56	  Somewhat limited   Depth to   saturated zone	0.88
	   	Restricted   Restricted   permeability	  0.21 	Restricted   Restricted   permeability	  0.21 	Restricted permeability	0.21
	 	 	 	 	 	Slope 	0.12 
L117C2:	į	į	į	į	į	ĺ	į
Omsrud, eroded	65   		  0.04 	Somewhat limited   Slope 	  0.04 	Very limited   Slope 	  1.00 
Omsrud	   15 		  0.04	Somewhat limited   Slope	  0.04	Very limited   Slope	1.00
Terril	1 10	  Not limited 	   	  Not limited 	   	  Very limited   Slope	1.00
Delft	   5 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00
	   	Restricted   permeability	0.15   	Restricted   permeability	0.15   	Restricted   permeability	0.15 
Storden, eroded	   5 	  Somewhat limited   Slope 	    0.04	  Somewhat limited   Slope 	    0.04	  Very limited   Slope 	1.00
L118A: Rushriver, frequently flooded	       85	    -	 	      Very limited	 	      Very limited	į Į
rrequencity rrooted	03   	Depth to saturated zone	1.00 		1.00 		1.00
	   	Flooding   	1.00   	Flooding   	0.40   	Flooding   Gravel content 	1.00  0.50 
Houghton, frequently flooded	•	  Very limited   Depth to	    1.00	  Very limited   Depth to	    1.00	  Very limited   Depth to	    1.00
	   	saturated zone	1.00	saturated zone	1.00	saturated zone Content of	1.00
	   	Content of   organic matter 	1.00   	organic matter Flooding	  0.40 	organic matter Flooding	  1.00 
Klossner, frequently flooded		  Very limited	:	  Very limited	:	  Very limited	
	   	saturated zone	1.00    1.00	Depth to saturated zone Content of	1.00    1.00	Depth to saturated zone Content of	1.00    1.00
	   	Content of organic matter	  1.00 	organic matter Flooding	  0.40	organic matter Flooding	1.00

Table 8a.--Recreation--Continued

Map symbol and component name	Pct. of map unit	- 		Picnic areas   		Playgrounds     	
	   		Value	Rating class and   limiting features	Value	Rating class and   limiting features	Value
L118A: Medo, frequently flooded	     5       	  -  Very limited   Depth to   saturated zone   Flooding   Content of   organic matter	      1.00    1.00  1.00	saturated zone Content of	      1.00    1.00    0.40	saturated zone	      1.00    1.00
L119B: Angus	     80 	    Not limited 	     	    Not limited 	     	    Somewhat limited   Slope	      0.50
Angus, eroded	   10 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	    0.50
Cordova	   5     	   Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21	saturated zone	  1.00    0.21	saturated zone	  1.00    0.21
Le Sueur	   5   	  Very limited   Depth to   saturated zone	    0.99 	  Somewhat limited   Depth to   saturated zone	    0.78 	  Somewhat limited   Depth to   saturated zone	    0.99 
L120A: Good Thunder	   80       	  Somewhat limited   Restricted   permeability   Depth to   saturated zone	0.43	  Somewhat limited   Restricted   permeability 	    0.43   	  Somewhat limited   Restricted   permeability   Depth to   saturated zone	0.43
Ocheyedan	   10 	  Not limited 	 	  Not limited 	 	  Somewhat limited   Slope	0.12
Minnetonka	   10         	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96	saturated zone	  1.00    0.96
L121B: Clarion	   80 	    Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	    0.50
Guckeen	   15         	   Very limited   Depth to   saturated zone   Restricted   permeability	  0.99    0.43 	saturated zone	  0.78    0.43 	saturated zone	  0.99    0.43    0.12
Marna	   5       	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96	saturated zone	  1.00    0.96	saturated zone	  1.00    0.96

Table 8a.--Recreation--Continued

component name	  Pct.   of	   Camp areas		   Picnic areas 		   Playgrounds 	
	map  unit	 		 		 	
	 		Value 	Rating class and limiting features	Value 	Rating class and limiting features	Value
L122B: Reedslake	     55 	    Not limited 	     	    Not limited 	     	    Somewhat limited   Slope	      0.50
Estherville	   25 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	    0.50
Le Sueur	   10   	• -	    0.99 	  Somewhat limited   Depth to   saturated zone	    0.78 	  Somewhat limited   Depth to   saturated zone	    0.99 
Cordova	   5     	saturated zone	  1.00    0.21	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21
Lowlein	   5   	  Somewhat limited   Depth to   saturated zone	    0.01   	  Not limited     	       	  Somewhat limited   Depth to   saturated zone	    0.01   
L123A: Belleville	   85     	Depth to saturated zone	    1.00    0.21	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.21	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21
Granby	   15     	Depth to saturated zone Ponding	  1.00    1.00  0.89	Depth to saturated zone	  1.00  1.00    0.89	   Very limited   Depth to   saturated zone   Ponding   Too sandy	  1.00    1.00  0.89
L124A:	 	 	 	 	 	 	 
Glencoe mucky clay loam	   85   	Depth to saturated zone	    1.00    1.00	-	    1.00  1.00	  Very limited   Depth to   saturated zone   Ponding	    1.00    1.00
Canisteo	   10 		    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 
Glencoe clay loam	   5   	Depth to saturated zone	    1.00    1.00	Depth to	    1.00  1.00		    1.00    1.00
L125A: Hanlon, rarely flooded	     60     	Flooding	        1.00  0.01 	      Not limited       	             	    Somewhat limited   Depth to   saturated zone   	          0.01   

Table 8a.--Recreation--Continued

component name	Pct. of map unit	 		Picnic areas   		   Playgrounds   	
	   	'	•	Rating class and   limiting features		Rating class and   limiting features	Value
L125A: Coland, occasionally flooded		Flooding	        1.00  1.00	! -	          1.00	Very limited Depth to saturated zone Flooding	        1.00    0.60
Minneopa, rarely flooded	     15     	Flooding	    1.00  0.01	!	         	  Somewhat limited   Depth to   saturated zone	    0.01 
L126A: Coland, occasionally flooded		Flooding	      1.00  1.00	! -	        1.00   	  -  Very limited   Depth to   saturated zone   Flooding	      1.00    0.60
Minneopa, occasionally flooded	     10   	Flooding	      1.00  0.01	!	         	  Somewhat limited   Depth to   saturated zone	      0.01
Havelock, occasionally flooded	       5   	!	        1.00  1.00	! -	        1.00	Very limited Depth to saturated zone Flooding	      1.00    0.60
Spillville, occasionally flooded	       5     	· -	      1.00  0.99	! =	        0.78   	  -  Somewhat limited   Depth to   saturated zone   Flooding	      0.99    0.60
L127A: Coland, frequently flooded	     80     	Flooding	:	saturated zone	1.00	Depth to	    1.00  1.00
Minneopa, occasionally flooded	     10     	Flooding	      1.00  0.01	•	           	    Somewhat limited   Depth to   saturated zone 	      0.01   
Havelock, frequently flooded	:	•	    1.00  1.00 	saturated zone	•	  Very limited   Flooding   Depth to   saturated zone	  1.00  1.00 

Table 8a.--Recreation--Continued

Map symbol and component name	Pct. of map unit	i !		Picnic areas   		   Playgrounds   	
			Value	Rating class and	Value	Rating class and	Value
		limiting features		limiting features		limiting features	
L127A: Spillville, occasionally flooded	         5	!	1.00	      Somewhat limited   Depth to	          0.78	      Somewhat limited   Depth to	          0.99
	 	Depth to saturated zone	0.99 	saturated zone	l I	saturated zone	  0.60
	i		İ	İ	İ		
L128A:			ļ		ļ		ļ
Mazaska	60       	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96
D-16-		 		 			
Rolfe	30     	Very limited   Depth to   saturated zone   Ponding	  1.00    1.00	Very limited   Ponding   Depth to   saturated zone	  1.00  1.00	Very limited   Depth to   saturated zone   Ponding	  1.00    1.00
	;   	Restricted permeability	0.96   	!	0.96   	Restricted permeability	0.96   
Lerdal	10   	Somewhat limited   Restricted   permeability	  0.94 	Somewhat limited   Restricted   permeability	  0.94 	Somewhat limited   Restricted   permeability	  0.94 
	   	Depth to   saturated zone 	0.90   	Depth to saturated zone	0.60   	Depth to   saturated zone 	0.90   
L129B: Terril	   90 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	    0.50
Delft	   5     	  Very limited   Depth to   saturated zone   Restricted	    1.00    0.15	  Very limited   Depth to   saturated zone   Restricted	    1.00    0.15	  Very limited   Depth to   saturated zone   Restricted	  1.00    0.15
	   	permeability		permeability		permeability	
Hamel	5   	  Very limited   Depth to   saturated zone	  1.00 	  Very limited   Depth to   saturated zone	  1.00 	  Very limited   Depth to   saturated zone	  1.00 
	 	Restricted   permeability	0.21	Restricted   permeability	0.21	Restricted   permeability	0.21
L130A: Okoboji mucky silty		 	   	 	   	 	   
clay loam	75   	Depth to saturated zone	1.00	Depth to	  1.00  1.00	saturated zone	1.00
	     	Ponding   Restricted   permeability 	1.00  0.21 	•	  0.21   	Ponding   Restricted   permeability 	1.00  0.21 
Okoboji silty clay loam	   15 	Depth to	    1.00	!	1.00	! -	1.00
	   	saturated zone   Ponding   Restricted	  1.00  0.15	!	1.00    0.15	saturated zone   Ponding   Restricted	  1.00  0.15
	 	permeability	į į	permeability	İ	permeability	į

Table 8a.--Recreation--Continued

Map symbol and	Pct.	Camp areas		Picnic areas		Playgrounds	
component name	of						
	map					l	
	unit	l		<u> </u>		<u> </u>	
		Rating class and	Value	Rating class and	Value	Rating class and	Value
	L	limiting features		limiting features		limiting features	
-120	!			1			
L130A:	! -				!		!
Brownton	5	Very limited		Very limited		Very limited	
	!		1.00		1.00		1.00
	!	saturated zone		saturated zone		saturated zone	
	!	Restricted	0.94		0.94		0.94
		permeability		permeability		permeability	
Spicer	5	  Very limited	! 	  Very limited		  Very limited	i
	İ	Depth to	1.00	Depth to	1.00	Depth to	1.00
	į	saturated zone		saturated zone	į	saturated zone	İ
M-W:		 		 	 	 	
Water, miscellaneous	100	  Not rated	i	  Not rated	i	  Not rated	i
	İ	İ	İ	İ	İ	İ	İ
U3B:	İ	İ	İ	Ì	İ	İ	İ
Udorthents (cut and	İ	İ	İ	İ	İ	İ	İ
fill land)	100	Not rated	İ	Not rated	İ	Not rated	İ
	İ	İ	İ		İ		İ
W:	İ	İ	Ì		İ		İ
Water	100	Not rated		Not rated	1	Not rated	1

## Table 8b.--Recreation

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	 	s	Off-road   motorcycle trai 	ls	Golf fairways   	3
	 	Rating class and   limiting features	Value 	Rating class and limiting features	Value	Rating class and limiting features	Value
GP:				 			
Pits, gravel	   80	  Not rated 	   	  Not rated 		  Not rated 	
Udipsamments	20	  Not rated 	   	  Not rated 	   	  Not rated 	
L5A:		 	i	 	 	 	i
Delft, overwash	50     	   Somewhat limited   Depth to   saturated zone	!	   Somewhat limited   Depth to   saturated zone		Somewhat limited   Depth to   saturated zone	  0.75 
Delft	   40   	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	11.00
Glencoe	   5     	  Very limited   Depth to   saturated zone   Ponding	•	   Very limited   Depth to   saturated zone   Ponding	 	Depth to	  1.00  1.00
Terril	   5	  Not limited	 	  Not limited	 	  Not limited	
L13A:	 	 	 	 	 	[ ]	1
Klossner, drained	80           	Very limited  Content of  organic matter  Depth to  saturated zone  Ponding	  1.00    1.00    1.00	organic matter Depth to saturated zone	  1.00    1.00    1.00	Very limited  Content of  organic matter  Depth to  saturated zone  Ponding	  1.00    1.00 
Mineral soil,	i	 	<u> </u>	 			i
drained	15     	Very limited   Depth to   saturated zone   Ponding	:	saturated zone		Very limited   Depth to   saturated zone   Ponding	  1.00    1.00
Houghton, drained	   5   	  Very limited   Content of   organic matter	1.00	organic matter	1.00 	  Very limited   Content of   organic matter	    1.00 
	     	Depth to   saturated zone   Ponding 	1.00    1.00 	Depth to   saturated zone   Ponding 	1.00    1.00 	Depth to   saturated zone   Ponding 	1.00    1.00 
L14A: Houghton, drained	   80	    Very limited   Content of	      1.00	    Very limited   Content of	      1.00	  Very limited   Content of	    1.00
	   	organic matter Depth to	1.00	organic matter Depth to	    1.00	organic matter Depth to	11.00
	   	saturated zone Ponding	  1.00	saturated zone Ponding	  1.00	saturated zone Ponding	1.00

Table 8b.--Recreation--Continued

Map symbol and component name	Pct. of map		s	Off-road motorcycle trai	ls	   Golf fairways   	
	unit   	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value
L14A:							
Klossner, drained	   10	  Verv limited		  Very limited		  Very limited	i i
,	i	Content of	1.00	Content of	1.00		1.00
	i	organic matter	i	organic matter	i	organic matter	i
	ĺ	Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
	ļ	Ponding	1.00	Ponding	1.00	Ponding	1.00
Minoral goil		 		 		 	
Mineral soil, drained	   10	  Very limited		  Very limited	l I	  Very limited	!
diamed	1	Depth to	11.00	Depth to	1		11.00
	i	saturated zone		saturated zone		saturated zone	
	į	Ponding	1.00	Ponding	1.00	Ponding	1.00
				l			
L15A:	ļ		İ	!	ļ	!	!
Klossner, ponded	30	<u> </u>		Very limited		Very limited	
		Content of	1.00	Content of organic matter	1.00		11.00
		organic matter Ponding	1		1.00	Content of organic matter	1.00
		!	11.00	!	11.00	!	1 1.00
	i	saturated zone		saturated zone		saturated zone	
	i		i	İ	i	İ	i
Okoboji, ponded	30	Very limited	İ	Very limited	ĺ	Very limited	İ
		Ponding	1.00	Ponding	1.00	Ponding	1.00
	ļ	Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
Glencoe, ponded	   30	  Verv limited		  Very limited		  Very limited	
cremede, ponded	30	Ponding	1.00	Ponding	1.00		1.00
	i	Depth to	1.00	!	1.00	Depth to	1.00
	İ	saturated zone	İ	saturated zone	İ	saturated zone	İ
			ļ		ļ		!
Houghton, ponded	10		:	Very limited	:	Very limited	
		Content of organic matter	1.00	Content of organic matter	1.00	Ponding Content of	1.00
		Ponding	1	!	1	organic matter	1
	i	Depth to	1.00	Depth to	1.00	Depth to	1.00
	į	saturated zone	İ	saturated zone	j	saturated zone	i
		[	1	[		[	[
L16A:							
Muskego, ponded	30 	Content of	1 1.00	Very limited   Content of	1.00	Very limited   Ponding	1 1.00
		organic matter	1	organic matter	1	Content of	11.00
	i	Ponding	1.00	Ponding	1.00	organic matter	
	i	Depth to	1.00	Depth to	1.00		1.00
	ĺ	saturated zone	İ	saturated zone	ĺ	Depth to	1.00
	ļ		İ	<u> </u>	ļ	saturated zone	ļ
Plan Bankhamania							
Blue Earth, ponded	30 	very limited   Ponding	1	Very limited   Ponding	  1.00	Very limited   Ponding	1
		Depth to	1.00	Depth to	1.00	Depth to	11.00
	İ	saturated zone		saturated zone		saturated zone	
		l		I		I	
Houghton, ponded	30	• -		Very limited		Very limited	!
	ļ	Content of	1.00	Content of	1.00		1.00
		organic matter	11 00	organic matter	1 00	Content of	1.00
	 	Ponding Depth to	1.00  1.00	Ponding Depth to	1.00  1.00	organic matter Depth to	1.00
		saturated zone	1	saturated zone	1	saturated zone	1
	1	i	1	1	1	1	1

Table 8b.--Recreation--Continued

Map symbol and	  Pct.	!	s	   Off-road		   Golf fairways	
component name	of  map  unit	į		motorcycle trai   	ls	 	
	<u> </u>	Rating class and limiting features	Value 	Rating class and limiting features		Rating class and   limiting features	Value
L16A: Klossner, ponded	   10   1       	Content of   organic matter   Ponding	    1.00    1.00  1.00	organic matter		Content of   organic matter	    1.00  1.00    1.00
L26B:	 	 	 	 	l I	 	l I
Shorewood	90       	!	  0.44 	Somewhat limited   Depth to   saturated zone	  0.44 	Somewhat limited   Depth to   saturated zone	  0.75 
Good Thunder	5	Not limited	į	Not limited	į	Not limited	į
Minnetonka	   5     	  Very limited   Depth to   saturated zone 	:	  Very limited   Depth to   saturated zone 	    1.00 	  Very limited   Depth to   saturated zone 	    1.00 
L36A:	į				ļ		ļ
Hamel, overwash	50     	!	!	Somewhat limited   Depth to   saturated zone	  0.44 	Somewhat limited   Depth to   saturated zone	  0.75 
Hamel	43     	! -	:	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone	1.00
Terril	5	  Not limited		  Not limited		  Not limited	
Glencoe	   2     	saturated zone	:	saturated zone	1.00	  Very limited   Depth to   saturated zone   Ponding	  1.00    1.00
L40B:	i	 		 		İ	
Angus	45 	Not limited 	 	Not limited 	 	Not limited	l I
Kilkenny	40   		  0.18 	Somewhat limited   Depth to   saturated zone	!	Somewhat limited   Depth to   saturated zone	0.56
Lerdal	   10   	!	    0.22 	  Somewhat limited   Depth to   saturated zone	    0.22 	  Somewhat limited   Depth to   saturated zone	  0.60
Mazaska	   5     	  Very limited   Depth to   saturated zone 	    1.00 	  Very limited   Depth to   saturated zone 	    1.00 	  Very limited   Depth to   saturated zone 	    1.00 
L41C2: Lester, eroded	     45 	    Not limited 	   	    Not limited 	     	    Somewhat limited   Slope	0.04
Kilkenny, eroded	   40 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	0.04
Terril	   10 	  Not limited 	   	  Not limited 	   	  Not limited 	   

Table 8b.--Recreation--Continued

component name	Pct. of	į	s	   Off-road   motorcycle trai	ls	   Golf fairways 	
	unit 	İ	Value	Rating class and	Value	Rating class and	Value
	Ĺ	limiting features		limiting features	•	limiting features	
L41C2: Derrynane	     5   			    Very limited   Depth to   saturated zone	•	    Very limited   Depth to   saturated zone	      1.00
L41D2: Lester, eroded	     45 	  Not limited 	     	  Not limited 		  Very limited   Slope	1.00
Kilkenny, eroded	   35 	  Not limited   	   	  Not limited 	   	  Very limited   Slope	1.00
Terril	   10 	  Not limited 	   	  Not limited	   	  Not limited 	   
Derrynane	   5   			  Very limited   Depth to   saturated zone		   Very limited   Depth to   saturated zone	  1.00 
Ridgeton	   5 	  Not limited 	   	  Not limited 		  Somewhat limited   Slope	0.16
L41E: Lester	     45 		      0.82	    Not limited 		    Very limited   Slope	
Kilkenny	   40 	•	    0.82	  Not limited 	   	  Very limited   Slope	1.00
Terril	   5 	  Not limited 	   	  Not limited 	   	  Not limited 	
Derrynane	   5   	  Very limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone	•	  Very limited   Depth to   saturated zone	  1.00 
Ridgeton	   5 	  Not limited 	   	Not limited  -		  Somewhat limited   Slope	0.96
L48A:	 	 	 	 		 	
Derrynane, overwash	50     			Somewhat limited   Depth to   saturated zone	•	Somewhat limited   Depth to   saturated zone	0.75
Derrynane	   40   	! -	    1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	1.00
Glencoe	   5     	Depth to saturated zone	    1.00    1.00	saturated zone	    1.00    1.00	  Very limited   Ponding   Depth to   saturated zone	  1.00  1.00
Terril	   5 	  Not limited 	   	  Not limited 	   	  Not limited 	   

Table 8b.--Recreation--Continued

component name	Pct. of map	:   		Off-road motorcycle trai	ls	   Golf fairways   	
	unit   	'	Value	   Rating class and   limiting features		   Rating class and   limiting features	Value
L49A: Klossner, surface drained	       65	      Very limited	     	      Very limited	     	      Very limited	   
	 	Content of organic matter Depth to	1.00    1.00	organic matter	1.00    1.00	Content of organic matter Depth to	1.00    1.00
	   	saturated zone   Ponding 	  1.00 	saturated zone   Ponding 	  1.00 	saturated zone   Ponding 	  1.00 
Klossner, drained	   20   	! -	  1.00 	Very limited   Content of   organic matter	  1.00 	  Very limited   Content of   organic matter	1.00
	   	Depth to saturated zone	1.00    1.00	Depth to saturated zone	  1.00    1.00	Depth to saturated zone	1.00    1.00
Mineral soil,	       15	 	i I	      Very limited	j I	      Very limited	
dramed	   	Depth to saturated zone	  1.00    1.00	Depth to saturated zone	  1.00    1.00	Depth to saturated zone	  1.00    1.00
L50A: Houghton, surface	   	   	   	   	   	   	   
drained	   40   	  Very limited   Content of   organic matter	  1.00 	  Very limited   Content of   organic matter	  1.00 	  Very limited   Content of   organic matter	  1.00
	   	saturated zone	1.00    1.00	saturated zone	1.00    1.00	saturated zone	1.00    1.00
Muskego, surface drained	     40	    Very limited	   	    Very limited	   	    Very limited	   
	   	Content of organic matter Depth to	1.00    1.00	organic matter	1.00    1.00	organic matter	1.00    1.00
	   	saturated zone Ponding	  1.00 	saturated zone   Ponding 	  1.00 	!	1.00    1.00
Klossner, drained	   10   	Content of organic matter	1.00	organic matter		  Very limited   Content of   organic matter	    1.00
	   	saturated zone	1.00    1.00	saturated zone	1.00    1.00	Depth to   saturated zone   Ponding	1.00    1.00
Mineral soil, drained	     10 			    Very limited   Depth to   saturated zone		    Very limited   Depth to   saturated zone	      1.00
* 51 do	 	Ponding	1.00	Ponding	1.00	Ponding	1.00
L51C2: Gladek, eroded	   80 	  Not limited   	   	  Not limited   	   	  Somewhat limited   Slope	    0.04
Barrington	   10 	  Not limited 	   	  Not limited 	   	  Not limited 	   

Table 8b.--Recreation--Continued

Map symbol and component name	Pct. of map	 	s	Off-road   motorcycle trai 	ls	Golf fairways	
	unit   	Rating class and   limiting features	Value	Rating class and   limiting features	Value	Rating class and limiting features	Value
	i	 	i	 	i	İ	i
L51C2: Lester, eroded	   5 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	    0.04
Madelia	   5   	  Very limited   Depth to   saturated zone	    1.00	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00
L56A:		 	 	 	1	 	 
Muskego, frequently	i	İ	i	İ	i	İ	i
flooded	45   	Very limited   Content of   organic matter   Ponding	  1.00    1.00	Very limited   Content of   organic matter   Ponding	  1.00    1.00	!	  1.00  1.00
	i	Depth to	1.00	Depth to	1.00	organic matter	
	     	saturated zone Flooding	  0.40 	saturated zone Flooding	  0.40 	Carbonate content   Depth to   saturated zone	1.00  1.00
Klossner, frequently		    Very limited	   	    Very limited	   	    Very limited	   
	İ	Content of	1.00	Content of	1.00	Ponding	1.00
		organic matter		organic matter	[	Flooding	1.00
	ļ	Ponding	1.00	Ponding	1.00	Content of	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	organic matter Depth to	11.00
	ļ	Flooding	0.40	Flooding	0.40	saturated zone	
Suckercreek,		 	l I	 		 	l I
frequently flooded	1 10	  Very limited	i	  Very limited	i	  Very limited	i
	i	Depth to	1.00	Depth to	1.00	Flooding	1.00
	İ	saturated zone	Ì	saturated zone	Ì	Depth to	1.00
		Flooding 	0.40 	Flooding 	0.40 	saturated zone	 
L57A:	i	İ	<u> </u>	İ	i	İ	i
Medo, drained	80	! -		Very limited	•	Very limited	
	ļ	Content of	1.00	Content of	1.00	!	1.00
		organic matter Ponding	1.00	organic matter Ponding	1	Content of organic matter	1.00
	i i	Depth to	11.00	Depth to	11.00	Depth to	1 1.00
	į	saturated zone		saturated zone		saturated zone	
Mineral soil,		 	l I	 	 	 	l I
drained	15	  Very limited	i	  Very limited	i	  Very limited	i
	İ	Ponding	1.00	Ponding	1.00	Ponding	1.00
	[	Depth to	1.00		1.00	Depth to	1.00
		saturated zone	 	saturated zone		saturated zone	 
Houghton, drained	5	  Very limited		  Very limited		  Very limited	i
		Content of	1.00	Content of	1.00	Ponding	1.00
	ļ	organic matter	ļ	organic matter	ļ.	Content of	1.00
	!	Ponding	1.00	Ponding	1.00	organic matter	
	1	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	!	l pararaced zone	!	l pararacea zone	!	l sacuraced zone	!

Table 8b.--Recreation--Continued

component name	Pct. of	į	s	Off-road motorcycle trai	ls	Golf fairways	3
	map  unit	!		l I		l I	
	uniic   	'	:	Rating class and limiting features		Rating class and limiting features	Value
	i	 	i		İ		i
L63A:	ĺ	İ	Ì		Ì	ĺ	İ
Klossner	85	! - T	:	Very limited	:	Very limited	
		! -	1.00	_	1.00		11.00
	 	saturated zone Content of	1.00	saturated zone Content of	1.00	Content of organic matter	1.00
	 	organic matter	1	organic matter	1	Depth to	1
	İ	!	1.00	_	1.00		
	į	j	i		i		i
Lura	10	Very limited		Very limited		Very limited	
	!	! -	1.00	Depth to	1.00		1.00
		saturated zone		saturated zone		Ponding	1.00
	 		1.00  1.00		1.00	Depth to saturated zone	1.00
	 	Foliating	1	Foliding	1	sacuraced zone	1
Brownton	   5	  Very limited	i	  Very limited	i	  Very limited	i
	į	Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
			ļ		ļ		İ
L64A:							!
Tadkee	50 	! -	1.00	Very limited   Depth to	1.00	Very limited   Depth to	1
	 	saturated zone	1	saturated zone	1	saturated zone	1
	i	!	0.89		0.89		i
	į	i -	i	·	i		i
Tadkee, depressional	36	Very limited		Very limited		Very limited	
		! -	1.00	Depth to	1.00		1.00
		saturated zone		saturated zone		Depth to	1.00
	 	!	1.00  0.89		1.00  0.89	saturated zone	-
	! 	100 sandy	1	100 sandy 	1	 	i
Better drained soil	8	Somewhat limited	i	Somewhat limited	i	Not limited	i
	ĺ	Too sandy	0.46	Too sandy	0.46	ĺ	İ
							!
Granby	4	Very limited	1	Very limited		Very limited	
	 	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding Depth to	1.00
	! 	!	1		1		1
	i	!	0.89		0.89		0.13
	İ	İ	İ		İ	İ	į
Less sandy soil	2	! -	:	Very limited		Very limited	1
	!	Depth to	1.00		1.00	-	1.00
	 	saturated zone Too sandy	  0.89	saturated zone Too sandy	  0.89	saturated zone	1
	l I	100 sandy 	U . 0 9	100 sandy 	U . 0 9	 	1
L73A:	i	 	i		i		i
Blue Earth	80	Very limited	j	Very limited	j	Very limited	į
		Depth to	1.00	Depth to	1.00	Ponding	1.00
	!	saturated zone	:	saturated zone		Depth to	1.00
	 	Ponding	1.00	Ponding	1.00	saturated zone	
Belleville	l l 10	  Very limited	I I	  Very limited	I I	  Very limited	
20110 11110	-0	! -	1		!	Depth to	1
	İ	saturated zone		saturated zone		saturated zone	i
	İ	İ	İ		İ		İ
Canisteo	10		1	Very limited	1	Very limited	[
	ļ	! -	1.00	_	1.00	Depth to	1.00
	ļ .	saturated zone	!	saturated zone	ļ.	saturated zone	1

Table 8b.--Recreation--Continued

component name	Pct. of map	 	Paths and trails     		Off-road motorcycle trails		Golf fairways	
	unit   	'		   Rating class and   limiting features	Value	   Rating class and   limiting features	Value	
L74A: Estherville	     87 	    Not limited 	     	    Not limited 	     	    Somewhat limited   Droughty	      0.12	
Hawick	   10 	  Not limited 	   	  Not limited 	   	  Very limited   Droughty	    1.00	
Biscay	   3   		    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone		
L75B: Barrington	     85	    Not limited	   	    Not limited	   	    Not limited	   	
Gladek	   10 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	0.04	
Madelia	   5   	! - T	    1.00 	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone	    1.00 	
L76B: Dickinson	     80	    Not limited	   	    Not limited	   	    Not limited	 	
Litchfield	   13   	Too sandy	!		:	  Somewhat limited   Depth to   saturated zone 	  0.90 	
Darfur	   5   	! -	    1.00 	  Very limited   Depth to   saturated zone 	:	  Very limited   Depth to   saturated zone 	    1.00 	
Clarion	2	Not limited	į	Not limited	į	Not limited	į	
L77A: Brownton	   75 	! -	:	  Very limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone	    1.00	
Marna	   15   	!	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone		
Lura	   10       	Depth to saturated zone	  1.00    1.00  1.00	  Very limited   Depth to   saturated zone   Too clayey   Ponding	  1.00    1.00  1.00	Ponding Depth to	  1.00  1.00  1.00	
L78A: Canisteo	     65 	    Very limited   Depth to   saturated zone	      1.00	  Very limited   Depth to   saturated zone	      1.00	  Very limited   Depth to   saturated zone	      1.00	
Crippin	   10     	  Somewhat limited   Depth to   saturated zone	    0.50 	  Somewhat limited   Depth to   saturated zone	    0.50 	  Somewhat limited   Depth to   saturated zone	    0.78   	

Table 8b.--Recreation--Continued

	  Pct.   of  map	į	s	   Off-road   motorcycle trai 	ls	   Golf fairways   	ı
	unit   	'		   Rating class and   limiting features		   Rating class and   limiting features	Value
L78A: Glencoe	     10     	Depth to saturated zone	•	saturated zone	1.00	  Very limited   Ponding   Depth to   saturated zone	      1.00  1.00
Canisteo, depressional	   5   	Depth to saturated zone	1.00	saturated zone	1.00	  Very limited   Ponding   Depth to   saturated zone	    1.00  1.00
Harps	   5 	:	:	:	1.00	  Very limited   Depth to   saturated zone	    1.00
Webster	   5   	  Very limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone	    1.00
L79B:	 	 	 	 			
Clarion	į	į	į	Not limited	į	Not limited	
Clarion, eroded	į	į	į	Not limited	į	Not limited	
Nicollet	8   	Somewhat limited   Depth to   saturated zone	  0.50 	Somewhat limited   Depth to   saturated zone	:	Somewhat limited   Depth to   saturated zone	0.78
Webster	   2   	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone	1.00
L80C2: Lester, eroded	     75 	    Not limited   	     	    Not limited   	     	    Somewhat limited   Slope	0.04
Terril	1 10	  Not limited 	   	  Not limited	   	  Not limited	
Hamel	   5   	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	1.00
Reedslake	   5	  Not limited	 	  Not limited	   	  Not limited	
Storden, eroded	   5 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	0.04
L80D2: Lester, eroded	     75 	    Not limited 	     	    Not limited 	     	    Very limited   Slope	1
Ridgeton	   10 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	0.63
Storden, eroded	   8 	  Not limited 	   	  Not limited 	   	  Very limited   Slope	    1.00
Terril	   5 	  Not limited 	   	  Not limited 	   	  Not limited 	   

Table 8b.--Recreation--Continued

component name	Pct. of map	į	s	Off-road   motorcycle trai	ls	   Golf fairways   	3
	unit   	'		   Rating class and   limiting features		   Rating class and   limiting features	
L80D2: Hamel	     2   	    Very limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone		    Very limited   Depth to   saturated zone	      1.00
L81A: Cordova	   85 	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone	    1.00
Le Sueur	   10   	  Somewhat limited   Depth to   saturated zone	:	  Somewhat limited   Depth to   saturated zone	:	  Somewhat limited   Depth to   saturated zone	    0.78 
Rolfe	   5   	  Very limited   Depth to   saturated zone   Ponding	1.00	  Very limited   Depth to   saturated zone   Ponding		  Very limited   Ponding   Depth to   saturated zone	  1.00  1.00
L82A: Marna	     85 			    Very limited   Depth to   saturated zone	:	    Very limited   Depth to   saturated zone	      1.00
Barbert	   10     	Depth to saturated zone	1.00	  Very limited   Depth to   saturated zone   Ponding	:	   Very limited   Ponding   Depth to   saturated zone	  1.00  1.00
Guckeen	   5 	  Not limited 	   	  Not limited 	   	  Not limited 	   
L83A: Webster	   65   	! -	:	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone	
Glencoe	   15     	  Very limited   Depth to   saturated zone   Ponding	1.00	  Very limited   Depth to   saturated zone   Ponding	:	  Very limited   Ponding   Depth to   saturated zone	  1.00  1.00
Canisteo	   10 	  Very limited   Depth to   saturated zone	    1.00	  Very limited   Depth to   saturated zone	    1.00	  Very limited   Depth to   saturated zone	    1.00 
Nicollet	   10   	  Somewhat limited   Depth to   saturated zone	    0.50 	  Somewhat limited   Depth to   saturated zone	    0.50 	  Somewhat limited   Depth to   saturated zone	    0.78 
L84A: Glencoe	   80       	  Very limited   Depth to   saturated zone   Ponding	    1.00    1.00	saturated zone	    1.00    1.00	  Very limited   Ponding   Depth to   saturated zone	    1.00  1.00

Table 8b.--Recreation--Continued

component name	Pct. of map	 	s	Off-road motorcycle trai	Golf fairways   	3	
	unit   	Rating class and		   Rating class and   limiting features		•	
L84A: Very poorly drained muck		      Verv limited	     	      Very limited	     	      Very limited	     
	         	Depth to saturated zone Content of organic matter	1.00    1.00	Depth to   saturated zone   Content of   organic matter	1.00	Ponding Content of organic matter Depth to	1.00  1.00      1.00
Canisteo	   5   			  Very limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone	
Harps	   5     	! - T	:	  Very limited   Depth to   saturated zone 		  Very limited   Depth to   saturated zone	    1.00 
L85A: Nicollet	     85     	!	:	  Somewhat limited   Depth to   saturated zone		  Somewhat limited   Depth to   saturated zone	    0.78 
Clarion	10	  Not limited		Not limited		  Not limited	į
Webster	   5   	! -	:	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone	1.00
L86A: Madelia	     90   	! -	:	  Very limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone	1.00
Okoboji	   5     	Depth to saturated zone	1.00	saturated zone	1.00	  Very limited   Ponding   Depth to   saturated zone	  1.00  1.00
Spicer	   3   	  Very limited   Depth to   saturated zone	!	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	    1.00
Kingston	   2   	  Somewhat limited   Depth to   saturated zone	    0.50 	  Somewhat limited   Depth to   saturated zone	    0.50 	  Somewhat limited   Depth to   saturated zone	    0.78 
L87A: Kingston	     85     	  Somewhat limited   Depth to   saturated zone	      0.50 	  Somewhat limited   Depth to   saturated zone	      0.50 	  Somewhat limited   Depth to   saturated zone	      0.78
Truman	10	  Not limited 		  Not limited 		  Not limited 	
Madelia	   5   	  Very limited   Depth to   saturated zone 	    1.00 	  Very limited   Depth to   saturated zone 	    1.00 	  Very limited   Depth to   saturated zone 	  1.00 

Table 8b.--Recreation--Continued

component name	Pct. of map unit	 	s	Off-road   motorcycle trai 	ls	   Golf fairways   	3
		   Rating class and   limiting features	•	Rating class and   limiting features			,
L88A:						 	
Lura	   85 		1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Too clayey   Ponding	    1.00  1.00
	     	Too clayey	1.00	Too clayey	1.00	Depth to   saturated zone	1.00
Brownton	   10   	! -	1.00	! - T	1.00	  Very limited   Depth to   saturated zone	1.00
Organic soil	   5     	Depth to saturated zone Content of organic matter	1.00    1.00	Depth to saturated zone Content of organic matter	1.00    1.00	Depth to	  1.00  1.00    1.00
	 	Ponding 	11.00	Ponding 	1.00 	saturated zone	
L89A: Guckeen	   82 	:	0.50	  Somewhat limited   Depth to   saturated zone	0.50	Somewhat limited   Depth to   saturated zone	0.78
Marna	   10   	! -	:	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	    1.00
Clarion clay loam	8	  Not limited		  Not limited		  Not limited	
L90A: Le Sueur	     75   		0.50	    Somewhat limited   Depth to   saturated zone	0.50	  Somewhat limited   Depth to   saturated zone	      0.78
Cordova	   13   	:	1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	    1.00 
Reedslake	12	  Not limited	ļ !	  Not limited	ļ !	  Not limited	!
L91A: Mazaska	     85   		1.00	Depth to	1.00	    Very limited   Depth to   saturated zone	      1.00
Lerdal	   10 	•	0.22	  Somewhat limited   Depth to   saturated zone	0.22	  Somewhat limited   Depth to   saturated zone	0.60
Rolfe	   5     	Depth to saturated zone	1.00	saturated zone	1.00	  Very limited   Ponding   Depth to   saturated zone	  1.00  1.00
L92A: Darfur	     78     		1.00	    Very limited   Depth to   saturated zone 	1.00	    Very limited   Depth to   saturated zone	      1.00

Table 8b.--Recreation--Continued

Map symbol and component name	Pct. of		s	   Off-road   motorcycle trai 	ls	   Golf fairways   	
	unit   			   Rating class and   limiting features		   Rating class and   limiting features	
L92A: Fieldon	     10   			    Very limited   Depth to   saturated zone	      1.00	    Very limited   Depth to   saturated zone	      1.00
Litchfield	   5   		    0.92  0.78 				    0.90   
Webster	   5     	  Very limited   Depth to   saturated zone 		  Very limited   Depth to   saturated zone 	    1.00 	  Very limited   Depth to   saturated zone 	    1.00   
Dassel	2     	saturated zone		saturated zone	  1.00    1.00	saturated zone	  1.00    1.00
L93A: Muskego	   82           	Depth to saturated zone Content of organic matter	    1.00    1.00    1.00	saturated zone Content of organic matter	    1.00    1.00    1.00	Content of   organic matter	    1.00  1.00    1.00 
Blue Earth	   10     	Depth to saturated zone	    1.00    1.00	saturated zone	    1.00    1.00	Depth to	    1.00  1.00
Mineral soil, drained	   5     		1.00		1.00	!	      1.00  1.00
Belleville	   3   	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	    1.00 
L94A: Lowlein	     75	    Not limited	 	    Not limited	 	    Not limited	i I
Linder	   15   	!	    0.78 	  Somewhat limited   Depth to   saturated zone	!	  Somewhat limited   Depth to   saturated zone	    0.90 
Dickinson	   8	  Not limited	   	  Not limited	   	  Not limited	   
Darfur	   2   	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	    1.00 
L95E: Hawick	   80       	!	    0.32   	  Not limited       	         	Droughty	  1.00  1.00  0.01

Table 8b.--Recreation--Continued

component name	Pct. of map	 	Off-road motorcycle trai	ls	Golf fairways   	ı	
	unit   		•	Rating class and   limiting features	Value	Rating class and   limiting features	Value
L95E: Estherville	     10   	    Not limited   	       	    Not limited   	       	    Very limited   Slope   Droughty	      1.00  0.59
Tomall	   10 	  Not limited 	   	  Not limited 	   	  Not limited 	   
L96B: Estherville	     55 	    Not limited 	     	  Not limited 	     	  Somewhat limited   Droughty	      0.12
Hawick	   35 	  Not limited 	   	  Not limited 	   	  Very limited   Droughty	    1.00
Tomall	   8	  Not limited	 	  Not limited	 	  Not limited	
Biscay	   2   	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	  1.00 
L97C: Hawick	     60 	    Not limited   	       	    Not limited   	       	    Very limited   Droughty   Slope	    1.00  0.04
Estherville	   30 	  Not limited 	     	  Not limited 	     	  Somewhat limited   Droughty   Slope	  0.12  0.04
Tomall	   10	  Not limited	   	  Not limited	   	  Not limited	
L98A:	 	! 		! 	 	! 	
Crippin	50   		  0.50 	Somewhat limited   Depth to   saturated zone	  0.50 	Somewhat limited   Depth to   saturated zone	0.78
Nicollet	   40 	!	!	  Somewhat limited   Depth to   saturated zone	:	  Somewhat limited   Depth to   saturated zone	0.78
Canisteo	   5   	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 
Clarion	   5 	  Not limited 	   	  Not limited 	   	  Not limited 	   
L99B: Clarion	62	    Not limited	 	    Not limited	 	    Not limited	<u> </u> 
Swanlake	   25	  Not limited	   	  Not limited	   	  Not limited	
Nicollet	   10   	•	    0.50 	  Somewhat limited   Depth to   saturated zone	    0.50 	  Somewhat limited   Depth to   saturated zone	    0.78 
Webster	   3   	! =	    1.00   	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	    1.00 

Table 8b.--Recreation--Continued

component name	Pct. of map	į	S	   Off-road   motorcycle trai	ls	   Golf fairways   		
	unit   	'		Rating class and   limiting features	•	Rating class and   limiting features	Value	
L100B: Clarion	     45	    Not limited 	     	    Not limited 	     	    Not limited 	     	
Estherville	   35 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Droughty	0.12	
Lowlein	   5	  Not limited	 	  Not limited	 	  Not limited		
Nicollet	   5   	!	    0.50 	  Somewhat limited   Depth to   saturated zone	    0.50 	  Somewhat limited   Depth to   saturated zone	    0.78 	
Swanlake	   5 	  Not limited 	   	  Not limited 	   	  Not limited 		
Webster	   5   	  Very limited   Depth to   saturated zone 		  Very limited   Depth to   saturated zone 	•	  Very limited   Depth to   saturated zone	  1.00 	
L101C2: Omsrud, eroded	     40 	    Not limited 	       	    Not limited 	       	    Somewhat limited   Slope 	0.04	
Hawick	   30   	  Not limited   	     	  Not limited   	     	  Very limited   Droughty   Slope	1.00	
Storden, eroded	   20 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	0.04	
Delft	   5   	! -	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	
Terril	   5 	  Not limited 	   	  Not limited 	   	  Not limited 		
L101D2: Omsrud, eroded	     40 	    Not limited 	     	    Not limited 	     	    Very limited   Slope	1.00	
Hawick	   25   	  Not limited   	     	  Not limited   	     	  Very limited   Slope   Droughty	  1.00  1.00	
Storden, eroded	   20 	  Not limited 	   	  Not limited 	   	  Very limited   Slope	1.00	
Ridgeton	   6 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	    0.63	
Delft	   5   	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	
Terril	   4 	  Not limited 	   	  Not limited 	   	  Not limited 		
L102C2: Omsrud, eroded	     45 			  Not limited   	       			

Table 8b.--Recreation--Continued

component name	  Pct.   of  map  unit	 	s	   Off-road   motorcycle trai 	ls	   Golf fairways   	
	   		:	Rating class and   limiting features		Rating class and   limiting features	Value
L102C2: Storden, eroded	     25 	    Not limited 	     	    Not limited 	     	    Somewhat limited   Slope	      0.04
Omsrud	   15 	  Not limited 	   	  Not limited 	 	  Somewhat limited   Slope	0.04
Terril	10	  Not limited	ļ !	  Not limited	ļ !	  Not limited	!
Delft	   5   	! -	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 
L102D2: Omsrud, eroded	     45 	    Not limited 	   	    Not limited 	 	    Very limited   Slope	1.00
Storden, eroded	   20 	  Not limited 	   	  Not limited 	   	  Very limited   Slope	    1.00
Omsrud	   15 	  Not limited 	   	  Not limited 	   	  Very limited   Slope	    1.00
Ridgeton	   8 	  Not limited 	   	  Not limited 	 	  Somewhat limited   Slope	0.63
Delft	   6 	! -	    1.00	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00
Terril	   6	  Not limited	 	  Not limited	 	  Not limited	
L103A: Fieldon	     50 	! -	      1.00	    Very limited   Depth to   saturated zone	      1.00	    Very limited   Depth to   saturated zone	      1.00
Canisteo	   35   	: -	    1.00	  Very limited   Depth to   saturated zone	    1.00	  Very limited   Depth to   saturated zone	    1.00
Darfur	   10   	:	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	  1.00 
Glencoe	   5     	  Very limited   Depth to   saturated zone   Ponding	•	  Very limited   Depth to   saturated zone   Ponding	  1.00    1.00	Depth to	  1.00  1.00 
L105C2: Lester, eroded	   45 	  Not limited 		  Not limited 		  Somewhat limited   Slope	0.04
Hawick	   35   	  Not limited   	   	  Not limited   	     	  Very limited   Droughty   Slope	  1.00  0.04
Terril	   10 	  Not limited 	   	  Not limited 	   	  Not limited 	   

Table 8b.--Recreation--Continued

component name	Pct. of map	 	S	Off-road motorcycle trai	ls	   Golf fairways   	
	unit   		•	   Rating class and   limiting features	•	   Rating class and   limiting features	Value
L105C2: Hamel	     5 	! =	      1.00	    Very limited   Depth to   saturated zone	      1.00	    Very limited   Depth to   saturated zone	      1.00
Storden, eroded	   5 	  Not limited   	     	  Not limited   	     	  Somewhat limited   Slope 	    0.04
L105D2: Lester, eroded	     45 	    Not limited 	     	    Not limited 	     	  Very limited   Slope	1.00
Hawick	   35   	  Not limited   	     	  Not limited   	     	  Very limited   Slope   Droughty	    1.00  1.00
Ridgeton	   8 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	0.63
Hamel	   5 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00
Storden, eroded	   5 	  Not limited 	   	  Not limited 	   	  Very limited   Slope	1.00
Terril	   2 	  Not limited 	   	  Not limited 	   	  Not limited 	
L106C2: Lester, eroded	     62 	    Not limited 	     	    Not limited 	     	  Somewhat limited   Slope	0.04
Storden, eroded	   20 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	0.04
Terril	   10 	  Not limited 	   	  Not limited 	   	  Not limited 	
Hamel	   5   	: -	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	1.00
Reedslake	   3 	  Not limited 	   	  Not limited 	   	  Not limited 	   
L106D2: Lester, eroded	   62 	  Not limited	i   	  Not limited	   	  Very limited   Slope	    1.00
Storden, eroded	   20 	  Not limited 	   	  Not limited 	   	  Very limited   Slope	1.00
Ridgeton	   10 	0  Not limited		  Not limited 	   	  Somewhat limited   Slope	0.63
Terril	   5 	  Not limited 	   	  Not limited 	   	  Not limited	   
Hamel	1 1 1 1 1		    1.00   	  Very limited   Depth to   saturated zone 	    1.00   		

Table 8b.--Recreation--Continued

component name	Pct. of map	 	s	   Off-road   motorcycle trai 	ls	Golf fairways    -		
	unit   	'		   Rating class and   limiting features	Value	   Rating class and   limiting features	Value	
L107A: Canisteo	     50 	! - T	      1.00	    Very limited   Depth to   saturated zone	      1.00	    Very limited   Depth to   saturated zone	      1.00	
Glencoe	   35       	Depth to saturated zone	    1.00    1.00	saturated zone	    1.00    1.00	Depth to	  1.00  1.00	
Harps	   10   			  Very limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone	  1.00 	
Canisteo, depressional	   3     	Depth to saturated zone	    1.00    1.00	saturated zone		  Very limited   Ponding   Depth to   saturated zone	    1.00  1.00	
Crippin	   2   	  Somewhat limited   Depth to   saturated zone	    0.50 	  Somewhat limited   Depth to   saturated zone		  Somewhat limited   Depth to   saturated zone	  0.78 	
L108A: Cordova	     65 	! -	      1.00	  Very limited   Depth to   saturated zone	      1.00	  Very limited   Depth to   saturated zone	      1.00	
Rolfe	   30     	Depth to saturated zone	    1.00    1.00	saturated zone	    1.00    1.00	Depth to	  1.00  1.00	
Le Sueur	   5   	  Somewhat limited   Depth to   saturated zone	!	  Somewhat limited   Depth to   saturated zone	!	  Somewhat limited   Depth to   saturated zone	    0.78 	
L109A: Marna	     65   	  Very limited   Depth to   saturated zone	      1.00	  Very limited   Depth to   saturated zone	      1.00	  Very limited   Depth to   saturated zone	1.00	
Barbert	   30     	Depth to saturated zone	  -  1.00    1.00	saturated zone	    1.00    1.00	Depth to	  1.00  1.00	
Guckeen	   5   	  Somewhat limited   Depth to   saturated zone	    0.50 	  Somewhat limited   Depth to   saturated zone 	    0.50 	  Somewhat limited   Depth to   saturated zone 	    0.78 	
L110E: Lester	     50 	!	      0.68	    Not limited   	     	    Very limited   Slope 	1.00	
Ridgeton	30   	Somewhat limited   Slope 	  0.08 	  Not limited   	   	  Very limited   Slope 	  1.00 	

Table 8b.--Recreation--Continued

	Pct. of map		s	Off-road   motorcycle trai 	ls	   Golf fairways   	ı
	unit   			   Rating class and   limiting features		   Rating class and   limiting features	Value
L110E:	     10	    Somewhat limited	   	    Not limited	   	    Very limited	   
		Slope 	0.68 	 	 	Slope 	1.00 
Belview	6   	6  Somewhat limited   Slope		Not limited   	 	Very limited   Slope 	  1.00
Hamel	   2   	Very limited		  Very limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone	  1.00 
Terril	   2 	Not limited		  Not limited 	   	  Not limited 	 
L110F:	i	! 	i	İ	i		i
Lester	55   	• -		Somewhat limited   Slope		Very limited   Slope	1.00
Ridgeton	30   		0.68	  Not limited 	 	  Very limited   Slope	1.00
Cokato	   8 		1   1.00	  Somewhat limited   Slope		  Very limited   Slope	1.00
Belview	   4 	  Very limited   Slope	    1.00	  Somewhat limited   Slope	    0.78	  Very limited   Slope	1
Terril	2	  Not limited	 	  Not limited		  Not limited	
Hamel	   1   	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone	1.00
L111A:	 	 		 		 	1
Nicollet	   85   	Somewhat limited   Depth to   saturated zone	  0.50 	Somewhat limited   Depth to   saturated zone		Somewhat limited   Depth to   saturated zone	0.78
Clarion	1 10	  Not limited 	   	  Not limited 	   	  Not limited 	   
Webster	   5   	  Very limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone	1.00
L112A:		 	i	! 	i	! 	ł
Webster	85   	• -		Very limited   Depth to   saturated zone	  1.00 	   Very limited   Depth to   saturated zone	  1.00 
Glencoe	   10     			  Very limited   Depth to   saturated zone   Ponding	    1.00    1.00	Depth to	  1.00  1.00
Nicollet	   5   	  Somewhat limited   Depth to   saturated zone	    0.50   	  Somewhat limited   Depth to   saturated zone	    0.50   	  Somewhat limited   Depth to   saturated zone	    0.78   

Table 8b.--Recreation--Continued

component name	Pct. of map		s	Off-road motorcycle trai	ls	Golf fairways   	3
	unit   		•	   Rating class and   limiting features		   Rating class and   limiting features	Value
L113B:	 		 		 		 
Reedslake	75 	Not limited 	 	Not limited 	l I	Not limited	
Le Sueur	   10   	!	!	Somewhat limited   Depth to   saturated zone	!	Somewhat limited   Depth to   saturated zone	0.78
Reedslake, eroded	1 10	  Not limited		  Not limited		  Not limited	!
Cordova	   5   	! -		Very limited		  Very limited   Depth to   saturated zone	    1.00 
L114A:		 		 			i
Hanlon, rarely flooded	   85 	  Not limited 	   	  Not limited 	   	  Not limited 	   
Coland, occasionally flooded	ally       10   Very limited     Depth to     saturated zone					  Very limited   Depth to   saturated zone	    1.00
						Flooding	0.60
Minneopa, rarely flooded	     5 	    Not limited 	     	    Not limited 	     	    Somewhat limited   Droughty	      0.01
L115A:	 	 	 	 	 	 	
Brownton	55   		•	Very limited     Depth to   1.0   saturated zone		Very limited   Depth to   saturated zone	  1.00 
Lura	   35	  Very limited	 	  Very limited		  Very limited	
		Depth to saturated zone	•	! -	:	Too clayey	1.00
	 			saturated zone Too clayey	:	!	1.00
	į	!	1.00	!	1.00	! -	į
Marna	   10   	! -	:	: -		  Very limited   Depth to   saturated zone	    1.00
L116A:	 	 	 	 	 	 	
Le Sueur		   Somewhat limited   Depth to   saturated zone	0.50	Depth to	0.50		
Lerdal		40  Somewhat limited     Depth to  (   saturated zone		Depth to	0.22		    0.60 
Mazaska	   10   			Depth to 1.00			    1.00 
Kilkenny	5   Somewhat limited			Depth to	0.18		

Table 8b.--Recreation--Continued

component name	Pct. of map unit		s	Off-road   motorcycle trai 	ls	Golf fairways   		
	   		Value	Rating class and   limiting features		Rating class and limiting features	Value	
L117C2: Omsrud, eroded	     65 	    Not limited 	     	    Not limited 	     	    Somewhat limited   Slope	      0.04	
Omsrud	   15 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Slope	    0.04	
Terril	   10	  Not limited 	   	  Not limited 	   	  Not limited	   	
Delft	   5   		    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	
Storden, eroded	5	  Not limited 	 	  Not limited 	 	Somewhat limited   Slope	0.04	
L118A: Rushriver, frequently flooded	       85   	Depth to saturated zone	        1.00    0.40	saturated zone	        1.00    0.40	Depth to	      1.00  1.00	
Houghton, frequently flooded		saturated zone Content of organic matter	1.00    1.00	saturated zone Content of organic matter	1.00    1.00	Depth to	    1.00  1.00    1.00	
Klossner, frequently flooded		saturated zone Content of organic matter	      1.00    1.00    0.40	saturated zone Content of organic matter	:	Depth to	    1.00  1.00    1.00	
Medo, frequently flooded	   5         	saturated zone Content of organic matter	    1.00    1.00    0.40	saturated zone Content of organic matter		Depth to	  1.00  1.00      1.00	
L119B: Angus	     80	    Not limited	   	    Not limited	   	    Not limited	 	
Angus, eroded	   10	  Not limited	 	  Not limited	 	  Not limited		
Cordova	1 1 -		    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	
Le Sueur	: : :		    0.50 	  Somewhat limited   Depth to   saturated zone	  Somewhat limited   Depth to   saturated zone	    0.78 		

Table 8b.--Recreation--Continued

component name	Pct. of map		S	Off-road motorcycle trai	ls	Golf fairways 	3	
	map  unit	:		 		 		
		Rating class and limiting features	•	Rating class and limiting features	•	Rating class and limiting features	Value	
L120A:	 	 	 	 	 	 		
Good Thunder	   80 	  Not limited 	   	  Not limited 	   	  Not limited 		
Ocheyedan	   10 	Not limited	į į	Not limited	į į	  Not limited 	İ	
Minnetonka	   10   	! - T	    1.00 	   Very limited   Depth to   saturated zone	    1.00 	   Very limited   Depth to   saturated zone	1.00	
L121B:	İ	! 	! 	! 	i	! 	i	
Clarion	80 	Not limited	į	Not limited	į	  Not limited	į	
Guckeen	   15   	!	!	Somewhat limited   Depth to   saturated zone	!	Somewhat limited   Depth to   saturated zone	0.78	
Marna	   5   	! -	!	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00	
L122B:	 	 	 	 	 	 		
Reedslake	55 	  Not limited	į	  Not limited	į	  Not limited	į	
Estherville	   25 	  Not limited 	   	  Not limited 	   	  Somewhat limited   Droughty	0.12	
Le Sueur	   10 	!	!	  Somewhat limited   Depth to   saturated zone	!	  Somewhat limited   Depth to   saturated zone	    0.78 	
Cordova	   5   	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone	    1.00 	
Lowlein	   5	  Not limited	 	  Not limited	 	  Not limited		
T1003								
L123A: Belleville	   85     	: -	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	1.00	
Granby	   15 	Depth to	1.00		1.00	!	1.00	
	   	· -	  1.00  0.89		  1.00  0.89	!	1.00    0.13	
L124A:	 	 	 	 	 	 		
Glencoe mucky clay	l   85	  Very limited	 	  Very limited	 	  Very limited	1	
			1.00		1.00	•	1.00	
	 	saturated zone   1.00   Ponding   1.00		saturated zone	1.00	Depth to		
Canisteo	   10	  Very limited	 	  Very limited	 	  Very limited	 	
	l	Depth to	1.00		1.00	:	1.00	
	ļ	saturated zone		saturated zone	ļ	saturated zone		

Table 8b.--Recreation--Continued

component name	  Pct.   of  map	İ	s	   Off-road   motorcycle trai 	ls	   Golf fairways   	
	unit   	'		   Rating class and   limiting features		   Rating class and   limiting features	Value
L124A: Glencoe clay loam	     5   	Depth to saturated zone	      1.00    1.00	saturated zone	      1.00    1.00	Depth to	      1.00  1.00
L125A: Hanlon, rarely flooded	       60	  -    Not limited	       	  -    Not limited	     	      Not limited	
Coland, occasionally flooded			    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone   Flooding	    1.00    0.60
Minneopa, rarely flooded	     15 	    Not limited   	       	    Not limited   	     	    Somewhat limited   Droughty	      0.01
L126A: Coland, occasionally flooded		! -	        1.00	      Very limited   Depth to   saturated zone 	        1.00	    Very limited   Depth to   saturated zone   Flooding	      1.00    0.60
Minneopa, occasionally flooded	       10 	      Not limited 	       	      Not limited 	       	    Somewhat limited   Droughty	        0.01
Havelock, occasionally flooded	       5     	 	        1.00   	  -  Very limited   Depth to   saturated zone 	        1.00   	 	      1.00    0.60
Spillville, occasionally flooded	     5     	    Somewhat limited   Depth to   saturated zone 	      0.50   	    Somewhat limited   Depth to   saturated zone 	      0.50   	  -  Somewhat limited   Depth to   saturated zone   Flooding	      0.78    0.60
L127A: Coland, frequently flooded	     80     	Depth to saturated zone	      1.00    0.40	saturated zone	      1.00    0.40	Depth to	      1.00  1.00
Minneopa, occasionally flooded	     10 	    Not limited 	       	      Not limited 	       	      Not limited 	     

Table 8b.--Recreation--Continued

component name	Pct. of	 	s	Off-road motorcycle trai	ls	   Golf fairways   	•
	unit   		•	   Rating class and   limiting features	•	Rating class and   limiting features	Value
L127A: Havelock, frequently flooded	:	saturated zone	1.00	  -  Very limited   Depth to   saturated zone   Flooding	:	 	        1.00  1.00
Spillville, occasionally flooded	     5     	  Somewhat limited   Depth to   saturated zone	      0.50   	  Somewhat limited   Depth to   saturated zone	      0.50   	  Somewhat limited   Depth to   saturated zone   Flooding	      0.78    0.60
L128A:	i		i		i		i
Mazaska	60     	!	1.00	Very limited   Depth to   saturated zone	:	Very limited   Depth to   saturated zone 	  1.00 
Rolfe	30     	Depth to saturated zone	  1.00    1.00	saturated zone	1.00	Very limited   Ponding   Depth to   saturated zone	  1.00  1.00
Lerdal	   10     	!	    0.22   	  Somewhat limited   Depth to   saturated zone 	!	  Somewhat limited   Depth to   saturated zone 	    0.60 
L129B: Terril	     90	    Not limited	<u> </u>	    Not limited	<u> </u>	    Not limited	 
Delft	   5   	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	1.00
Hamel	   5   	  Very limited   Depth to   saturated zone	  1.00 	  Very limited   Depth to   saturated zone	  1.00 	  Very limited   Depth to   saturated zone	1.00
L130A:		! 		! 		 	
Okoboji mucky silty clay loam	   75     	  Very limited   Depth to   saturated zone   Ponding	    1.00    1.00	saturated zone	    1.00    1.00	Depth to	  1.00  1.00
Okoboji silty clay loam	   15     	  Very limited   Depth to   saturated zone   Ponding	    1.00    1.00	saturated zone	    1.00    1.00	Depth to	  1.00  1.00
Brownton	   5   	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00
Spicer	   5   	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	    1.00 

Table 8b.--Recreation--Continued

Map symbol and	Pct.	Paths and	l trails	- 1	Off-road		   Golf fairways		
component name	of	İ		i	motorcycle trai	ls			
	map	İ		Ĺ			İ		
	unit	İ		i					
	1	Rating class	and  V	/alue	Rating class and	Value	Rating class and	Value	
		limiting fea	tures		limiting features		limiting features		
	1			- 1					
M-W:	1								
Water, miscellaneous	3   100	Not rated		1	Not rated		Not rated		
U3B:									
Udorthents (cut and									
fill land)	- 100	Not rated		1	Not rated		Not rated		
W:									
Water	- 100	Not rated		1	Not rated		Not rated		
W:	į Į	i I		į		       			

Table 9.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

			Pote	ential f	or habit	at eleme	nts		Potenti	al as ha	bitat for-
Map symbol	Pct. of	Grain		Wild					Open-	Wood-	Wetland
and	map unit	and	Grasses	herba-	Hard-	Conif-	Wetland	Shallow	land	land	wild-
component name		seed	and	ceous	wood	erous	plants	water	wild-	wild-	life
		crops	legumes	plants	trees	plants	<u> </u>	areas	life	life	
GP:		 	 	 				 	 	 	
Pits, gravel.	] 	! 	! 	! 	! 	i i	i i	l İ	! 	i i	! !
rics, graver.		! 	! 	! 	 	<u> </u>	İ	! 	! 	i i	 
Udipsamments.	İ	į	į	į	į	į	į	į	į	į	į
L5A:		  -	 	 				 	 		
Delft, overwash	l   50	  Good	  Good	  Good	  Fair	  Fair	  Good	l  Good	  Good	  Fair	  Good
berre, overwabii	30										
Delft	40	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
	_			<u> </u>						<u> </u>	
Glencoe	5 I	Good 	Good 	Fair 	Fair 	Fair 	Good	Good 	Good 	Fair	Good 
Terril	l l 5	I Good	  Good	I  Good	  Good	  Good	Poor	  Poor	  Good	  Good	Poor
L13A:											
Klossner, drained	80	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Mineral soil, drained	l l 15	  Good	  Good	  Good	  Good	  Good	  Poor	  Fair	  Good	  Good	  Poor
mineral soil, drained	13	l Good	G00a 	l Good	G00a 	G00a 		  -	l Good	G00a	
Houghton, drained	5	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
İ			ĺ	ĺ	ĺ	ĺ		ĺ	ĺ	İ	ĺ
L14A:					[	[		ļ	l		[
Houghton, drained	80	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Klossner, drained	l l 10	  Good	  Good	  Good	  Good	  Good	Poor	  Fair	  Good	  Good	  Poor
, 4141104											
Mineral soil, drained	10	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
					[	[		ļ	l		[
L15A:											
Klossner, ponded	30	Very	Very	Good	Very	Very	Good	Good	Very	Very	Good
	<u> </u>	poor 	poor	l I	poor	poor	l I	l I	poor 	poor	 
Okoboji, ponded	30	Very	  Very	  Good	Very	Very	Good	  Good	  Very	  Very	Good
i		poor	poor	j	poor	poor	İ	j	poor	poor	į
Glencoe, ponded	30	Very	Very	Good	Very	Very	Good	Good	Very	Very	Good
	İ	poor	poor	 	poor	poor		 	poor	poor	
Houghton, ponded	l l 10	  Very	  Very	  Good	  Very	  Very	  Good	l  Good	  Very	  Very	  Good
nougheon, ponded	10	poor	poor		poor	poor			poor	poor	
		i -	i -	j	i -	i -	i	j	i -	i -	į
L16A:											
Muskego, ponded	30	Very	Very	Good	Very	Very	Good	Good	Very	Very	Good
	İ	poor	poor	 	poor	poor			poor	poor	
Blue Earth, ponded	l   30	  Very	  Very	  Good	  Very	  Very	  Good	  Good	  Very	  Very	  Good
Brue Bartif, politica	30 	poor	poor	<del> </del>	poor	poor		<del> </del>	poor	poor	
j				İ			İ	İ			İ
Houghton, ponded	30	Very	Very	Good	Very	Very	Good	Good	Very	Very	Good
		poor	poor	<u> </u>	poor	poor		!	poor	poor	!
**1	1 10	 	 		 	 			 	 	
Klossner, ponded	10 	Very   poor	Very   poor	Good 	Very   poor	Very   poor	Good 	Good 	Very   poor	Very   poor	Good 
	! 	2001	2001	! 	2001		İ	i i	5001		<u> </u>
L26B:	j	j	i	j	i	i	į	j	j	i	i
Shorewood	90	Good	Good	Good	Good	Good	Poor	Poor	Fair	Good	Poor
		l	!	ļ	!	!	!	ļ			!
Good Thunder	5	Good	Good	Good	Good	Good	Poor	Poor	Fair	Good	Poor
Minnetonka	l I 5	  Good	  Good	  Good	  Good	  Good	  Good	  Good	  Good	  Fair	  Good
	, , 	300a 	300u	300a 	3000	3000	3000	300a 	300a 	1.011	
	1	1	I	ı	1	1	1	1	ı	1	1

Table 9.--Wildlife Habitat--Continued

	Potential for habitat elements										bitat for-
Map symbol	Pct. of	Grain	!	Wild					Open-	Wood-	Wetland
and	map unit	and	Grasses	herba-	Hard-	Conif-	Wetland	Shallow	land	land	wild-
component name		seed	and	ceous	wood	erous	plants	water	wild-	wild-	life
		crops	legumes	plants	trees	plants		areas	life	life	
					!						
136A:			!	ļ	!	!	!		ļ	!	!
Hamel, overwash	50	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
_										! .	!
Hamel	43	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
	_										
Terril	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
<b>G1</b>		   a 1	   a 1	   a 1		l market			   a 1		
Glencoe	2	Good	Good	Good	Good	Fair	Good	Good	Good	Good	Good
L40B:		 		l I				 	l I		 
Angus	45	  Good	  Good	  Good	  Good	  Good	170000		  Good	  Good	
Angus	45	l Good	l Good	l Good	l Good	l Good	Very	Very	l Good	l Good	Very
		l I	 	l I	l I		poor	poor	l I	 	poor
Kilkenny	40	  Good	  Good	  Good	  Good	  Good	  Poor	  Very	  Good	  Good	  Very
KIIKemiy	1 40	i Good	l Good	l GOOG	I GOOG	I GOOG	I FOOT	poor	l GOOG	I GOOG	poor
		l I	l I	l I	i i	i i	I I	l boor	l I	I I	l boor
Lerdal	10	  Good	  Good	  Good	  Good	  Good	  Poor	  Poor	  Good	  Good	  Poor
	10	300a 	300a 	300a 	300a 	3000	1 2001	1 2001	300a 	300a 	1 001
Mazaska	5	  Good	  Good	  Good	  Fair	Fair	  Good	ı  Good	  Good	  Fair	  Good
	i										I
L41C2:		! 	İ	i i	i	i	<u> </u>	! 	i i	i	i
Lester, eroded	45	Good	Good	Good	Good	Good	Very	Very	Good	Good	Very
							poor	poor			poor
		i	i	i	i	i			i	i	
Kilkenny, eroded	40	Good	Good	Good	Good	Good	Very	Very	Good	Good	Very
		İ	i	İ	i	i	poor	poor	İ	i	poor
		İ	i	İ	i	i	i -	i -	İ	i	i ¯
Terril	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
		ĺ	İ	ĺ	İ	İ	İ	ĺ	ĺ	İ	ĺ
Derrynane	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
L41D2:											
Lester, eroded	45	Fair	Good	Good	Good	Good	Very	Very	Good	Good	Very
							poor	poor			poor
Kilkenny, eroded	35	Fair	Good	Good	Good	Good	Very	Very	Good	Good	Very
			!		!	!	poor	poor			poor
							!			! .	!
Terril	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
_	_				<u> </u>	<u> </u>				<u> </u>	
Derrynane	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Pidnoton	_	 	   a 1	   a 1			 	 	   a 1		 
Ridgeton	5	Fair	Good	Good	Good	Good	: -	Very	Good	Good	Very
		l I	 	l I	 		poor	poor	l I	 	poor
L41E:		l I	 	l I	 		 	l I	l I	 	 
Lester	45	  Poor	  Good	  Good	  Good	  Good	  Very	  Very	  Good	  Good	  Very
Tescer	1 43	FOOT	l Good	l GOOG	I GOOG	I GOOG	poor	poor	l GOOG	I GOOG	poor
		l I	i i	l I			l boor	l boor	l I	I I	l boor
Kilkenny	40	Poor	  Good	  Good	  Good	  Good	  Very	  Very	  Good	  Good	  Very
				, 300 <b>u</b>			poor	poor	, 300 <b>u</b>		poor
i		İ	i	İ	i	i			İ	i	
Terril	5	Good	  Good	  Good	  Good	Good	Poor	Poor	  Good	  Good	Poor
	-										
Derrynane	5	Good	Good	Good	Fair	Fair	Good	Good	Good	  Fair	Good
* ** *			i		i		i			i	
Ridgeton	5	Fair	Good	Good	Good	Good	Very	  Very	Good	Good	  Very
		İ	i	İ	i	i	poor	poor	İ	i	poor
i		İ	i	İ	i	i	i	. <u>-</u> .	İ	i	i -

Table 9.--Wildlife Habitat--Continued

March   Marc				Pote	ential f	or habit	at eleme	nts		Potentia	al as hal	bitat for
Component name	Map symbol	Pct. of	Grain	I	Wild	I	I	I	I	Open-	Wood-	Wetland
Component name				Grasses	herba-	Hard-	Conif-	Wetland	Shallow	land	land	wild-
				:	:	:	:	:	:	•		!
Learn	compositorio riamo			!		!	:	1	:	:	:	1
Derryname, overwash   50   Good   Good   Good   Fair   Fair   Good   Good   Good   Fair   Good   Good   Good   Fair   Good   Good   Good   Fair   Good   Good   Good   Fair   Good   Good   Good   Good   Fair   Good   Good   Good   Good   Fair   Good   Good   Good   Good   Good   Fair   Good   Good   Good   Good   Good   Good   Fair   Good   G			CIODB	regumes	Prancs	LCTGGB	Prancs	<u> </u>	l areas	1 1116	1 1116	l
Derryname, overwash   50   Good   Good   Good   Fair   Fair   Good   Good   Good   Fair   Good   Good   Good   Fair   Good   Good   Good   Fair   Good   Good   Good   Fair   Good   Good   Good   Good   Fair   Good   Good   Good   Good   Fair   Good   Good   Good   Good   Good   Fair   Good   Good   Good   Good   Good   Good   Fair   Good   G	T 403 -			 	l I				 	l I	 	 
Derrymane						!	!				!	
Clemce	Derrynane, overwash	50	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Clemce						1	1	!		ļ	!	
Terril	Derrynane	40	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Terril												
Light	Glencoe	5	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Light				1		1	1	I	I	I	I	I
Light	Terril	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Riosamer, surface drained   65   Poor   Poor   Good   Poor   Poor   Go	i		i	i	i	i	i	i	i	i	i	i
Riosamer, surface drained	т.49а•		i	i	l I	i	i	i	i	i	i	i
Grained				<u> </u>	l I	1	:	:	:	:	:	! !
Nineral soil, drained		C.F.	   De em	   De ess	   a = = 3	l Dane	l Dann	   a = = 4	   a = = 4	   De ess	   De ess	   a = 4
Mineral soil, drained	drained	65	Poor	Poor	Good	Poor	Poor	Good	l Good	Poor	Poor	Good
Mineral soil, drained				!		!	!	!	!	!	!	!
L50A1   Houghton, surface	Klossner, drained	20	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
L50A1   Houghton, surface												
Houghton, surface   drained	Mineral soil, drained	15	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Houghton, surface drained   40   Poor   Poor   Good   Poor   Poor   Good   Good   Foor   Poor   Good   Muskego, surface drained   40   Poor   Poor   Good   Poor   Poor   Good   Good   Foor   Poor   Good   Muskego, surface drained   40   Poor   Poor   Good   Good   Good   Good   Foor   Poor   Good   Good   Poor   Rair   Good   Good   Poor   Mineral soil, drained				ĺ	İ	İ	İ	İ	ĺ	ĺ	ĺ	ĺ
Houghton, surface drained   40   Poor   Poor   Good   Poor   Poor   Good   Good   Foor   Poor   Good   Muskego, surface drained   40   Poor   Poor   Good   Poor   Poor   Good   Good   Foor   Poor   Good   Muskego, surface drained   40   Poor   Poor   Good   Good   Good   Good   Foor   Poor   Good   Good   Poor   Rair   Good   Good   Poor   Mineral soil, drained	L50A:		i	i	i	i	i	i	i	i	i	i
Muskego, surface drained			i	i	l I	i	i	i	i	¦	i	<u> </u>
Muskego, surface drained         40         Poor         Foor         Good         Poor         Good         Good         Foor         Good         Foor         Foor         Foor         Good         Good         Foor         Foor         Foor         Good         Good         Foor         Foor         Good         Good         Foor         Foor         Good         Foor         Foor         Foor         Good         Foor         Foor         Foor         Foor         Foor         Foor         Foor         Foor         Foor         Foor         Foor         Foor         Foor         Foo	• •	40	l Doom	l I Doom	l Cood	l Doom	l Doom	l Cood	l I Cood	l I Doom	l Doom	l I Cood
Klossner, drained	drained	40	1001	POOL	GOOG	POOL	POOL	I GOOG	l Good	POOL	POOL	GOOG
Nineral soil, drained				!		!	ļ.	! _	!	!	!	
Mineral soil, drained         10         Good         Fair         Good         Good         Good         Good         Foor         Poor         Poor         Good         Fair         Good         Good         Fair         Good         Good         Fair         Good         Good         Foor         Poor	Muskego, surface drained	40	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Mineral soil, drained         10         Good         Fair         Good         Good         Good         Good         Foor         Poor         Poor         Good         Fair         Good         Good         Fair         Good         Good         Fair         Good         Good         Foor         Poor												
L51C2:   Gladek, eroded	Klossner, drained	10	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
L51C2:   Gladek, eroded				I	l	1	1	I	I	I	I	I
L51C2:   Gladek, eroded	Mineral soil, drained	10	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Gladek, eroded	,					i	i	i	i		1	i
Gladek, eroded	T 51C2			<u> </u>	l I	1	:	:	:	:	:	! !
Barrington		0.0			   a 1			   D =	 	   a 1		 
Barrington	Gladek, eroded	80	GOOd	Good	Good	Good	Good	Poor	: -	Good	Good	: -
Lester, eroded				!		!	!	!	poor	!	!	poor
Lester, eroded				l		I		I	l	l	l	
Madelia	Barrington	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Madelia												
Madelia	Lester, eroded	5	Fair	Good	Good	Good	Good	Very	Very	Good	Good	Very
Madelia			İ	İ	İ	i	i	poor	poor	İ	İ	poor
Muskego, frequently flooded	i		i	i	i	i	i	i -	i -	i	i	i -
Muskego, frequently flooded	Madelia	5	l Good	l I Good	l Good	Good	  Fair	l Good	l I Good	l Good	l  Fair	l Good
Muskego, frequently flooded	Madelia	3	l GOOG	l GOOG	l Good	1	I	I GOOG	l GOOG	i Good	I all	1
Muskego, frequently flooded	7.503			!	l I	!	!	!	!	!	!	
## Flooded			!	!	!	!	!	!	!	!	!	!
Klossner, frequently flooded					l	1	1	!		ļ	!	
Suckercreek, frequently	flooded	45	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Suckercreek, frequently												
Suckercreek, frequently flooded	Klossner, frequently			1		I	1	I	I	I	I	1
Suckercreek, frequently flooded	flooded	45	Poor	Poor	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Flooded				i		i	i	i		i	i	
Flooded	Suckergreek frequently		i	i	l I	i	i	i	i	¦	¦	<u> </u>
L57A:  Medo, drained		10	   De em	   De ess	   a = = 3	l Dane	l Dann	   a = = 4	   a = = 4	   De ess	   De ess	   a = 4
Medo, drained	1100ded	10	POOT	POOL	Good	POOL	POOL	l Good	l Good	POOL	POOL	Good
Medo, drained				!		!	!	!	!	!	!	!
Mineral soil, drained	L57A:				l					l		
Houghton, drained 5   Good   Good   Good   Good   Good   Poor   Fair   Good   Good   Poor	Medo, drained	80	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Houghton, drained 5   Good   Good   Good   Good   Good   Poor   Fair   Good   Good   Poor								1			1	
Houghton, drained 5   Good   Good   Good   Good   Good   Poor   Fair   Good   Good   Poor	Mineral soil, drained	15	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
L63A:			İ	i	İ	i	i	i	i	İ	i	i
L63A:	Houghton, drained	5	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Klossner		3	300 <b>u</b> 	, 500a I	300 <b>u</b> 	1	1	1	1-0-1	, 500u	, 500a	1 - 001
Klossner	T 623.		 	 	l I	1	1	1	 	l I	I I	I I
Lura 10   Poor   Poor   Poor   Poor   Good   Good   Poor   Good   Good   Poor   Good   Good   Poor   Good   Good   Poor   Good		0.5	l	I .	l  -			l	 	!	I	l
	Klossner	85	Good	Poor	Poor	Poor	Poor	Good	Good	Fair	Poor	Good
			l						l	l		l
Brownton 5 Good Good Fair Fair Good Good Fair Good	Lura	10	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
Brownton 5 Good Good Fair Fair Good Good Good Fair Good	İ											l
	Brownton	5	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
	i			i	i I	i	i	i	i	i	i	i

Table 9.--Wildlife Habitat--Continued

	Potential for habitat elements Potential as habitat for											
Map symbol and component name	Pct. of map unit	and seed	I	Wild  herba-   ceous	   Hard-   wood	  Conif-	  Wetland  plants 	:	Open-   land   wild-   life	Wood-   land   wild-   life	Wetland   wild-   life	
L64A:			   	   				   	   		İ	
Tadkee	50	Poor	  Good	  Good	  Fair	  Poor	  Good	  Good	  Good	Poor	  Good	
Tadkee, depressional	36	Poor	  Good	  Good	Poor	Poor	Good	  Good	  Poor	Poor	  Good	
Better drained soil	8	  Fair	  Good 	  Good 	  Fair 	  Good 	  Very   poor	  Very   poor	  Fair 	  Good 	  Very   poor	
Granby	4	  Poor	  Good	  Good	  Poor	  Poor	  Good	  Good	  Good	  Poor	  Good	
Less sandy soil	2	  Poor	  Good 	  Good 	  Fair	  Poor	  Good	  Good 	  Good 	  Poor	  Good 	
L73A: Blue Earth	80	    Fair	    Fair	    Fair	    Fair	    Poor	    Good	    Good	    Fair	    Poor	    Good	
Belleville	10	  Fair	  Fair	  Good	  Poor	  Poor	  Fair	  Fair	  Fair	  Poor	  Fair	
Canisteo	10	  Good	  Good	  Fair 	  Fair	  Fair	  Good	  Good	  Good	  Fair	  Good	
L74A: Estherville	87	    Fair 	    Fair 	    Fair 	    Fair 	    Fair 	    Very   poor	    Very   poor	    Fair 	    Fair 	    Very   poor	
Hawick	10	Poor	  Poor 	  Fair 	  Poor 	  Poor 	  Very   poor	  Very   poor	  Poor 	  Poor 	  Very   poor	
Biscay	3	  Good	  Good	  Good	  Good	  Fair	  Good	  Good	  Good	  Fair	  Good	
L75B: Barrington	85	    Good	    Good	    Good	    Good	    Good	    Poor	    Poor	    Good	    Good	    Poor	
Gladek	10	  Good 	  Good 	  Good 	  Good 	  Good 	  Poor 	  Very   poor	  Good 	  Good 	  Very   poor	
Madelia	5	  Good 	  Good 	  Good 	  Good 	  Fair 	  Good 	  Good 	  Good 	  Fair 	  Good 	
L76B: Dickinson	80	Good	    Good 	  Good 	    Good 	    Good 	    Poor 	  Very   poor	    Good 	    Good 	  Very   poor	
Litchfield	13	Fair	  Good	  Good	  Good	  Good	  Fair	  Poor	  Good	  Good	  Poor	
Darfur	5	  Fair	  Fair	  Fair	  Fair	  Fair	  Good	  Good	  Fair	  Fair	  Good	
Clarion	2	  Good 	  Good 	  Good 	  Good 	  Good 	  Poor 	  Very   poor	  Good 	  Good 	  Very   poor	
L77A: Brownton	75	    Good	    Good 	    Fair	    Fair	    Fair	    Good	    Good 	    Good 	    Fair	    Good 	
Marna	15	  Good 	  Good 	  Fair 	  Fair	  Fair	  Good 	  Good 	  Good 	  Fair	  Good 	
Lura	10	  Poor 	  Poor 	  Poor 	  Poor 	  Poor 	  Good 	  Good 	  Poor 	  Poor 	  Good 	
L78A: Canisteo	65	    Good	    Good	    Fair	    Fair	    Fair	    Good	    Good	    Good	    Fair	    Good	
Crippin	10	  Good	  Good	  Good	  Good	  Fair	  Fair	  Poor	  Good	  Good	  Poor	
Glencoe	10	  Good 	  Good 	  Fair 	  Fair 	  Fair 	  Good 	  Good 	  Good 	  Fair 	  Good 	

Table 9.--Wildlife Habitat--Continued

	 	l	Pote	ential f	or habit	at eleme	nts		Potenti	al as ha	bitat for
Map symbol	Pct. of	Grain		Wild					Open-	Wood-	Wetland
and	map unit	and	Grasses	herba-	Hard-	Conif-	Wetland	Shallow	land	land	wild-
component name	İ	seed	and	ceous	wood	erous	plants	water	wild-	wild-	life
-	i	crops	legumes	plants	trees	plants	i	areas	life	life	i
	İ	i	i	i		i		i	i		İ
L78A:	i	! 	i	! 	i	i	i	i	! 	i	i
Canisteo, depressional	,   5	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Poor	Good
cumpect, depressional	1	1	1	1	1	1	1	1	1	1	1
Harps	ı İ 5	  Fair	  Fair	  Fair	  Fair	Poor	  Good	  Good	  Fair	  Fair	  Good
haips	1 2	Fair	Fair	raii	Fall	I	I GOOG	l Good	raii	Fall	I GOOD
Walastan	l I 5	l  Good	l  Good	l  Good	l I Elevision	  Poor	  Good	   a = = 3	 	l I Elevision	  Good
Webster	] 5	Good	l Good	Good	Fair	POOT	Good	Good	Good	Fair	l Good
T 500											
L79B:								1			I
Clarion	65	Good	Good	Good	Good	Good	Poor	Very	Good	Good	Very
	!		!	!	!	ļ	!	poor	!	!	poor
	!						!	ļ			!
Clarion, eroded	25	Good	Good	Good	Good	Good	Poor	Very	Good	Good	Very
								poor			poor
Nicollet	8	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Webster	2	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
L80C2:	1		1					1			
Lester, eroded	75	Fair	Good	Good	Good	Good	Very	Very	Good	Good	Very
	ĺ	İ	İ	İ	İ	İ	poor	poor	İ	İ	poor
	i	i	i	i	i	i	i -	i	i	i	i -
Terril	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
	i		i		i		i	i		i	
Hamel	, l 5	Good	Good	Fair	Good	Fair	Good	Good	Good	Fair	Good
	i				1		1		1		1
Reedslake	i I 5	  Good	  Good	  Good	  Good	  Good	Very	  Very	  Good	  Good	  Very
Reedstake	, ,	i good	l GOOG	i Good	I	l Good	poor	poor	i Good	I	poor
	 	 	 	 	 		l boor	l boor	 	 	I POOL
Storden, eroded	l I 5	  Fair	  Good	  Good	  Fair	  Poor	170	1 770 2022	  Fair	  Fair	170000
Scorden, eroded	1 2	Fair	l Good	l Good	Fall	I	Very		raii	Fall	Very
	!	 		 			poor	poor	 		poor
1.0000	!	 		 					 		l I
L80D2:	75	   == -:		 	104				 	104	
Lester, eroded	75	Fair	Good	Good	Good	Good	Very	Very	Good	Good	Very
	!	!	!	!	!		poor	poor	!	!	poor
							!	ļ			!
Ridgeton	10	Fair	Good	Good	Good	Good	Very	Very	Good	Good	Very
	!	!	!	!	!	!	poor	poor	!	!	poor
	!		!	!			!	!			!
Storden, eroded	8	Fair	Good	Good	Fair	Poor	Very	Very	Fair	Fair	Very
							poor	poor			poor
Terril	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Hamel	2	Good	Good	Fair	Good	Fair	Good	Good	Good	Fair	Good
L81A:											
Cordova	85	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Le Sueur	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
	I	I	I	I		1		I	I		I
Rolfe	5	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good
	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
L82A:	i	į	i	i	i	i	i	i	i	i	i
Marna	l 85	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
-	İ	i	i	i	i	i		i	i	i	
Barbert	l   10	  Good	  Good	  Good	  Fair	  Fair	  Good	  Good	  Good	  Fair	  Fair
	, ±0	, 500a I	1	, 300a I	1-4	1-0-1	1	1	, 300a I	1-4	
Guckeen	l   5	  Good	  Good	  Good	  Good	  Good	  Fair	  Fair	  Good	  Good	  Fair
	1	l good	300a 	l good	I	<del>300</del> 0	1-0-1	1.011	l good	I	1- 011
	I	I	I	I	I	I	I	I	I	1	1

Table 9.--Wildlife Habitat--Continued

Map symbol	Pct. of	Grain		Wild	or habit 				Open-	Wood-	bitat for   Wetland
and component name	map unit	seed	Grasses and	ceous	wood	erous	Wetland  plants	water	wild-	land wild-	wild-   life
		crops 	legumes 	prants 	trees	plants 		areas	life 	life 	l
L83A:		İ	İ	İ	i	i	i	i	i	i	İ
Webster	65	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
Glencoe	15	  Good 	  Good 	  Fair 	  Fair 	  Fair 	  Good 	  Good 	  Good 	  Fair 	  Good 
Canisteo	10	  Good 	  Good 	  Fair 	  Fair 	  Fair 	Good	  Good 	  Good 	  Fair 	  Good 
Nicollet	10	  Good 	  Good 	  Good 	  Good 	  Good 	Poor	  Poor 	  Good 	  Good 	  Poor 
L84A:		! 	! 	! 	 	! 	 	! 	! 	 	! 
Glencoe	80	Good	Good	Fair	Fair	  Fair	Good	Good	Good	Fair	Good
Very poorly drained muck	10	  Good 	  Poor 	  Poor 	  Poor 	  Poor 	  Good 	  Good 	  Fair 	  Poor 	  Good 
Canisteo	5	  Good 	  Good 	  Fair 	  Fair	  Fair 	  Good 	  Good 	  Good 	  Fair	  Good 
Harps	5	  Fair 	  Fair 	  Fair 	  Fair 	  Poor	  Good 	  Good 	  Fair 	  Fair 	  Good 
L85A:		! 	! 	! 	! 	! 		! 	! 	! 	! 
Nicollet	85	  Good 	  Good 	  Good 	  Good 	  Good 	Poor	Poor	  Good 	  Good 	Poor
Clarion	10	  Good 	Good	  Good 	Good	  Good 	Poor	Very  poor	  Good 	Good	  Very   poor
Webster	5	  Good 	  Good 	  Good 	  Fair 	  Poor 	  Good 	  Good 	  Good 	  Fair 	  Good 
L86A:		İ	İ	İ	i	į	i	j	į	i	į
Madelia	90	Good	Good	Good	Good	Fair	Good	Good	Good	Fair	Good
Okoboji	5	  Fair 	  Fair 	  Fair 	  Fair 	  Very   poor	  Good 	  Good 	  Fair 	  Fair 	  Good 
Spicer	3	  Good	  Good	  Fair	  Fair	  Poor	  Good	  Good	  Good	  Fair	  Good
Kingston	2	  Good 	  Good	  Good	  Good	  Good	  Poor	  Poor	  Good	  Good	  Poor
L87A:		 	 	 	! 	 	 	l I	! 	! 	 
Kingston	85	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Truman	10	  Good 	  Good 	  Good 	  Good 	  Fair 	  Poor 	  Very   poor	  Good 	  Good 	  Very   poor
Madelia	5	  Good	  Good	  Good	  Good	  Fair	  Good	  Good	  Good	  Fair	  Good
L88A:		 	 	 		 		 	 		 
Lura	85	  Poor	  Poor	  Poor	  Poor	  Poor	  Good	  Good 	  Poor	  Poor	  Good
Brownton	10	  Good 	  Good	  Fair	  Fair	  Fair	  Good	  Good 	  Good 	  Fair	  Good
Organic soil	5	  Good 	  Poor	  Poor	  Poor	  Poor	  Good	  Good 	  Fair 	  Poor	  Good 
L89A:	0.5	 	 	 		   	 	   	   		   
Guckeen	82	Good 	į	Good	Good	Good	Fair 	Fair 	Good 	Good	Fair 
Marna	10	Good 	Good 	Fair 	Fair 	Fair 	Good 	Good 	Good 	Fair 	Good 
Clarion clay loam	8	Good 	Good	Good	Good	Good	Poor	Very   poor	Good	Good	Very   poor

Table 9.--Wildlife Habitat--Continued

				ential f	or habit	at eleme	nts		Potenti	al as ha	bitat for-
Map symbol	Pct. of	Grain		Wild					Open-	Wood-	Wetland
and	map unit	and	Grasses	herba-	Hard-	Conif-	Wetland	Shallow		land	wild-
component name		seed	and	ceous	wood	erous	plants	water	wild-	wild-	life
		crops	legumes	plants	trees	plants		areas	life	life	
L90A:											
Le Sueur	75	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
										ļ	
Cordova	13	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
			!		!	ļ	!	!			!
Reedslake	12	Good	Good	Good	Good	Good	Very	Very	Good	Good	Very
			!		!	ļ	poor	poor	!	!	poor
			!		!	ļ	!	!	!	!	!
L91A:					<u> </u>					<u> </u>	ļ
Mazaska	85	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
							ļ	!		! .	!
Lerdal	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
	_		ļ 	ļ 						! .	!
Rolfe	5	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good
			!	ļ	ļ.		ļ	!	!	!	!
L92A:			!	ļ 	ļ .	ļ .			ļ	! .	
Darfur	78	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
						ļ .				! .	! -
Fieldon	10	Good	Good	Good	Good	Fair	Good	Good	Good	Good	Good
			!		!	ļ		!	!	!	!
Litchfield	5	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor
			!			ļ	!	!	!		!
Webster	5	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
_	_		!	ļ	ļ.				!	!	
Dassel	2	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
			!		!	ļ	!	!	!	!	!
L93A:					!	ļ	!	!		!	!
Muskego	82	Good	Fair	Poor	Poor	Poor	Good	Good	Fair	Poor	Good
Blue Earth	10	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Poor	Good
			!		!	ļ	!		!	!	!
Mineral soil, drained	5	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
					!	ļ					
Belleville	3	Fair	Fair	Good	Poor	Poor	Fair	Fair	Fair	Poor	Fair
			!		!	ļ	!	!			!
L94A:			!		!	ļ	!	!	!	!	!
Lowlein	75	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
							ļ	!		! .	!
Linder	15	Fair	Good	Good	Good	Good	Very	Very	Good	Good	Very
			!	ļ	ļ		poor	poor		!	poor
	_						ļ	!		! .	!
Dickinson	8	Good	Good	Good	Good	Good	Poor	Very	Good	Good	Very
			ļ	ļ	ļ		ļ	poor	!	ļ	poor
_	_		!	ļ 	ļ .	ļ .			ļ	! .	
Darfur	2	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
			!	ļ	ļ		ļ	!		!	!
L95E:			!	ļ 	ļ		ļ	!		!	!
Hawick	80	Very	Very	Fair	Poor	Poor	Very	Very	Very	Poor	Very
		poor	poor	ļ	!		poor	poor	poor	ļ	poor
		l 	<u> </u>	l 	<u> </u>					<u> </u>	
Estherville	10	Fair	Fair	Fair	Fair	Fair	Very		Fair	Fair	Very
	l		!	ļ	!		poor	poor	ļ	!	poor
m11								 			 
Tomall	10	Good	Good	Good	Good	Good	Very	Very	Good	Good	Very
	l		ļ	l			poor	poor	ļ	!	poor
-05-	l		ļ	l				ļ	ļ	ļ	ļ
L96B:		l 	<u> </u>	<u> </u>	<u> </u>	<u> </u>				<u> </u>	
Estherville	55	Fair	Fair	Fair	Fair	Fair	Very		Fair	Fair	Very
	!		ļ	ļ	ļ.	ļ	poor	poor		ļ	poor
		ļ	!	ļ .	ļ.	ļ	ļ.	!	ļ	!	<u> </u>
Hawick	35	Poor	Poor	Fair	Poor	Poor	Very		Poor	Poor	Very
	ļ	!	!	ļ	ļ.	ļ	poor	poor	ļ .	!	poor
			1	1	1	1	1	1	I		I

Table 9.--Wildlife Habitat--Continued

Potential for habitat elements Potential as habitat for											bitat for
Map symbol	Pct. of	Grain		Wild			I		Open-	Wood-	Wetland
and	map unit	and	Grasses	herba-	Hard-	Conif-	Wetland	Shallow	land	land	wild-
component name		seed	and	ceous	wood	erous	plants	water	wild-	wild-	life
		crops	legumes	plants	trees	plants		areas	life	life	
	!	!	!	ļ	ļ	ļ	!		!	!	ļ
L96B:											
Tomall	8	Good	Good	Good	Good	Good	Very	Very	Good	Good	Very
	ļ			 		!	poor	poor		!	poor
Biscay	l l 2	  Good	  Cood	  Good	  Cood	  Fair	  Cood	  Good	  Cood	  Fair	  Cood
Biscay	4 	l Good	Good	l Good	Good	Fair	Good	l Good	Good 	Fair	Good
L97C:	! !	l I	l I	l I	i i	i i	I I	l I	l I		
Hawick	I I 60	  Poor	  Poor	  Fair	Poor	Poor	  Very	  Very	  Poor	Poor	  Very
114412011	00 	1	1		1	1	poor	poor	1	1	poor
	i	i	i	İ	i	i			i	i	
Estherville	30	Fair	Fair	Fair	Fair	Fair	Very	Very	Fair	Fair	Very
	i	İ	i	İ	i	i	poor	poor	i	i	poor
	İ	İ	i	İ	i	i	i -	i -	i	i	i -
Tomal1	10	Good	Good	Good	Good	Good	Very	Very	Good	Good	Very
	ĺ	ĺ	İ	ĺ	İ	İ	poor	poor	ĺ	İ	poor
	l										
L98A:											
Crippin	50	Good	Good	Good	Good	Fair	Fair	Poor	Good	Good	Poor
Nicollet	40	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
										[	
Canisteo	5	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
	!	!	!	ļ	!	!				!	!
Clarion	5	Good	Good	Good	Good	Good	Poor	Very	Good	Good	Very
	!	!	!	ļ	!	!	!	poor	!	!	poor
	!		ļ	ļ	ļ	ļ			ļ	!	
L99B:								 			
Clarion	62	Good	Good	Good	Good	Good	Poor	Very	Good	Good	Very
	ļ				ļ	!		poor		!	poor
Swanlake	l l 25				   To don	 	   Da ana				
Swalliake	25 	Good	Good	Good 	Fair	Fair	Poor	Very	Good	Fair	Very   poor
	l I	 	 	l I	l I		 	poor	 		l boot
Nicollet	l   10	  Good	  Good	  Good	  Good	  Good	  Poor	  Poor	  Good	  Good	Poor
NICOILCE	I 10	000a 	1	000 <b>u</b> 	1		1	1		1	1
Webster	i I 3	  Good	  Good	  Good	  Fair	Poor	  Good	ı  Good	  Good	Fair	Good
	İ										
L100B:	i	i	i	i	i	i	i	: 	i	i	i
Clarion	45	Good	Good	Good	Good	Good	Poor	Very	Good	Good	Very
	i		i	İ	İ	i	i	poor		i	poor
	i	İ	i	İ	i	i	i	i	i	i	i -
Estherville	35	Fair	Fair	Fair	Fair	Fair	Very	Very	Fair	Fair	Very
	İ	İ	İ	İ	İ	İ	poor	poor	İ	İ	poor
	ĺ	ĺ	İ	ĺ	İ	İ	İ	ĺ	ĺ	İ	Ì
Lowlein	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
	l										
Nicollet	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Swanlake	5	Good	Good	Good	Fair	Fair	Poor	Very	Good	Fair	Very
								poor			poor
Webster	5	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
	!	ļ		ļ	ļ	ļ				ļ.	ļ
L101C2:			 						<u> </u>		
Omsrud, eroded	40	Poor	Fair	Good	Good	Good	Very	Very	Fair	Good	Very
	ļ	ļ	!	ļ	1		poor	poor	ļ	!	poor
er and other		 	   De-e	 		 	 	 	 	l no o	
Hawick	30	Poor	Poor	Fair	Poor	Poor	Very	Very	Poor	Poor	Very
	l I	l I	[ 	l I	I I		poor	poor	 	1	poor
Stordon anadad	l I 20	l I Pain	l Coca	l l	l I⊽a4∽	l Boom	170	   170	l I⊽a≟∽	  Poin	  Vor:-
Storden, eroded	20	Fair	Good	Good 	Fair	Poor	Very	: -	Fair	Fair	Very
	I I	! !	! !	I I	1		poor	poor	! !		poor
	I	I	I	I	I	I	I	I	I	I	I

Table 9.--Wildlife Habitat--Continued

		<u> </u>	Pote	ential f	or habit	at eleme	nts		Potenti	al as ha	bitat for
Map symbol	Pct. of	Grain	I	Wild		1	I	ı	Open-	Wood-	Wetland
and	map unit	!	Grasses		   Hard-	  Conif-	Wetland	ı İshallow		land	wild-
	Map dire	:	and	:	wood	:	:	:	wild-		
component name	l	seed		ceous		:	plants	:			l TITE
		crops	legumes	plants	trees	plants		areas	life	life	
L101C2:			I	I				I	I		
Delft	l 5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
	i		i	1	i	i	1	i	1	i	i
Terril	l I 5	   a = = 3	   a 4	   a = = 3	104	104	l Doom	   Do one	   a = = 3	104	l Daam
Terrii		Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
		l									
L101D2:											
Omsrud, eroded	40	Poor	Fair	Good	Good	Good	Very	Very	Fair	Good	Very
	i	i	i	i	i	i	poor	poor	i	i	poor
	! 	:	i	:	1	1	1	1	:	1	
** 1 - 1-	l 05	   <b> </b>	   D	l Imada	   D = ===	   D = ===	I **	 	   m = ===	   D = ===	 
Hawick	25	Poor	Poor	Fair	Poor	Poor	Very		Poor	Poor	Very
							poor	poor			poor
			1					1			
Storden, eroded	20	Fair	Good	Good	Fair	Poor	Very	Very	Fair	Fair	Very
	i	i	i	i	i	i	poor	poor	i	i	poor
	! !	!	!	!	!	!	POOL	POOL	!	!	POOL
	!		!	!	!	!	!	!	!	!	!
Ridgeton	6	Fair	Good	Good	Good	Good	Very	Very	Good	Good	Very
	l	l	I	I	1	1	poor	poor	I	1	poor
	i	i	i	i	i	i	i ¯	i -	i	i	i -
Delft	ı İ 5	l I Cood	  Good	l Good	l Boim	l Enim	Good	l Good	  Good	l Boim	l Cood
Delit		Good	l Good	l Good	Fair	Fair	Good	l Good	l Good	Fair	Good
	l	l	I	l		l	1	I	l		
Terril	4	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
	I	I	I	I	1	1	1	I	I	1	
L102C2:	i	i	i	i	i	i	i	i	i	i	i
	   45	   De ess	l I Trades	   a = = 3	104	104	177	   ***	l I Trades	104	
Omsrud, eroded	45	Poor	Fair	Good	Good	Good	Very		Fair	Good	Very
							poor	poor			poor
			1					1			
Storden, eroded	25	Fair	Good	Good	Fair	Poor	Very	Very	Fair	Fair	Very
	i	 	1	1			poor	poor	 		poor
	!	!	!	!	!	!	POOL	L POOL	!	!	POOL
	!	!	!	!	!	!	!	!	!	!	!
Omsrud	15	Poor	Fair	Good	Good	Good	Very	Very	Fair	Good	Very
			I	I			poor	poor	I		poor
	ĺ	ĺ	İ	İ	İ	Ì	İ	İ	İ	İ	İ
Terril	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
161111	1 -0	1 0000	1 3000	1	1 0000	1 0000	1 001	1 2001	1	1 0000	1
	!	!	!	!			!	!	!		!
Delft	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
			1					1			
L102D2:	ĺ	ĺ	İ	İ	İ	Ì	İ	İ	İ	İ	İ
Omsrud, eroded	45	Poor	Fair	Good	Good	Good	Very	Very	Fair	Good	Very
Ombida, eloded	1 23	1	Fall	1	1 0000	1 0000	: -		Fall	1 0000	
	!	!	!	!	!	!	poor	poor	!	!	poor
Storden, eroded	20	Fair	Good	Good	Fair	Poor	Very	Very	Fair	Fair	Very
	I	I	I	I	1	1	poor	poor	I	1	poor
	i	i	i	i	i	i	i -	i -	i	i	i -
O	! ! 15	   De ess	l I Tradica	1	104	104	1 77	   TT	l I Tradica	104	
Omsrud	15	Poor	Fair	Good	Good	Good	Very	Very	Fair	Good	Very
		l	l				poor	poor			poor
Ridgeton	l 8	Fair	Good	Good	Good	Good	Very	Very	Good	Good	Very
_	i	i	i	i	i	i	poor	poor	i	i	poor
	:	:	i	:	1	1	1	1	:	1	1
			l	l	!	!	1	 	l	!	l .
Delft	6	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Terril	6	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
	i	i	i	i	i	i	i	i	i	i	i
L103A:	i i	i	i	i	i	¦	i	i	i	i	i
	l =c	l	l	 	l	<u> </u> .	 	l	 	l	1
Fieldon	50	Good	Good	Good	Good	Fair	Good	Good	Good	Good	Good
Canisteo	35	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
	i	i	i	i	i	i	i	i	i	i	i
Darfur -	I I 10	l Pain	l Dain	l Dain	l I⊽ai∽	l Ipai∽	Cood	l Coca	l Dain	l I⊽ai∽	l Cood
Darfur	10	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
	l	l	!	1	!		Į.	!	1	!	Į.
Glencoe	5	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
	l	I	I	I	I	1	1	I	I	I	I
	•						1				•

Table 9.--Wildlife Habitat--Continued

		ļ	Pote		or habit	at eleme	nts				bitat for-
Map symbol	Pct. of	Grain		Wild	!		!		Open-	Wood-	Wetland
and	map unit	and	Grasses	herba-	Hard-	Conif-	Wetland	Shallow	land	land	wild-
component name		seed	and	ceous	wood	erous	plants	water	wild-	wild-	life
		crops	legumes	plants	trees	plants	<u> </u>	areas	life	life	
											[
L105C2:											
Lester, eroded	45	Fair	Good	Good	Good	Good	Very	Very	Good	Good	Very
							poor	poor			poor
Hawick	35	Poor	Poor	Fair	Poor	Poor	Very	Very	Poor	Poor	Very
							poor	poor			poor
Terril	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Hamel	5	Good	Good	Fair	Good	Fair	Good	Good	Good	Fair	Good
Storden, eroded	5	Fair	Good	Good	Fair	Poor	Very	Very	Fair	Fair	Very
							poor	poor			poor
											[
L105D2:											
Lester, eroded	45	Fair	Good	Good	Good	Good	Very	Very	Good	Good	Very
							poor	poor			poor
											[
Hawick	35	Poor	Poor	Fair	Poor	Poor	Very	Very	Poor	Poor	Very
							poor	poor			poor
											1
Ridgeton	8	Fair	Good	Good	Good	Good	Very	Very	Good	Good	Very
							poor	poor			poor
Hamel	5	Good	Good	Fair	Good	Fair	Good	Good	Good	Fair	Good
Storden, eroded	5	Fair	Good	Good	Fair	Poor	Very	Very	Fair	Fair	Very
							poor	poor			poor
Terril	2	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
L106C2:											
Lester, eroded	62	Fair	Good	Good	Good	Good	Very	Very	Good	Good	Very
							poor	poor			poor
Storden, eroded	20	Fair	Good	Good	Fair	Poor	Very	Very	Fair	Fair	Very
							poor	poor			poor
Terril	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
											!
Hamel	5	Good	Good	Fair	Good	Fair	Good	Good	Good	Fair	Good
			!		!	!	!	ļ			!
Reedslake	3	Good	Good	Good	Good	Good	Very	Very	Good	Good	Very
			!		!	!	poor	poor	!	!	poor
		ļ	!		!	!	ļ	!	!	!	!
L106D2:			!		!	!	!	!	!	!	!
Lester, eroded	62	Fair	Good	Good	Good	Good	Very	Very	Good	Good	Very
			!		!	!	poor	poor	!	!	poor
			!			!	!	!			!
Storden, eroded	20	Fair	Good	Good	Fair	Poor	Very	: -	Fair	Fair	Very
		ļ	ļ	l	ļ	ļ.	poor	poor		ļ	poor
		ļ 	!	l	İ	ļ.	ļ.	!	ļ .	!	!
Ridgeton	10	Fair	Good	Good	Good	Good	Very	Very	Good	Good	Very
		!	!	l	İ	ļ.	poor	poor	ļ .	!	poor
	_										
Terril	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
_		ļ	!	l .	ļ.	ļ .	ļ.	ļ	!	! .	!
Hamel	3	Good	Good	Fair	Good	Fair	Good	Good	Good	Fair	Good

Table 9.--Wildlife Habitat--Continued

Potential for habitat elements   Potential as habitat for-												
Map symbol and	Pct. of map unit	!	  Grasses	Wild  herba-	   Hard-	  Conif-	  Wetland	  Shallow	Open-   land	Wood-   land	Wetland   wild-	
component name	<u> </u>	seed crops	and legumes	ceous plants	wood   trees	erous plants	plants 	water areas	wild-   life	wild-   life	life 	
L107A:	  -	 		 				 			 	
Canisteo	50	  Good	Good	  Fair	Fair	Fair	Good	  Good	Good	Fair	Good	
Glencoe	   35 	  Good 	  Good 	  Fair 	  Fair 	  Fair 	  Good 	  Good 	  Good 	  Fair 	  Good 	
Harps	   10 	  Fair 	  Fair 	  Fair 	  Fair 	  Poor 	  Good 	  Good 	  Fair 	  Fair 	  Good 	
Canisteo, depressional	   3 	  Fair 	  Fair 	  Fair 	  Fair 	Poor	  Good 	  Good 	  Fair 	Poor	  Good 	
Crippin	2   2	Good	Good	  Good 	Good	  Fair 	Fair 	Poor	  Good 	Good	  Poor 	
L108A:			   <b>.</b>	 	j I <del>m</del> adas	j I <del>n</del> adas			   <b> </b>	j I <del>m</del> adas	 	
Cordova	65 	Good 	Good 	Good 	Fair 	Fair 	Good 	Good 	Good 	Fair 	Good 	
Rolfe	30 	Fair 	Fair 	Fair 	Fair 	Poor	Good 	Good 	Fair 	Fair 	Good 	
Le Sueur	5 	Good	Good	Good	Good 	Good 	Poor	Poor	  Good 	Good 	  Poor 	
L109A:			j 	<u>.</u>	<u>į</u>	<u>i</u> .	į	į	j	<u>į</u>	j 	
Marna	65 	Good 	Good 	Fair 	Fair 	Fair 	Good 	Good 	Good 	Fair 	Good 	
Barbert	30 	Good	Good	Good	Fair 	Fair 	Good	Good	Good 	Fair 	Fair 	
Guckeen	5   5	Good	Good	Good	Good 	Good	Fair 	  Fair 	Good 	Good 	Fair 	
L110E:			 	 				 	 		 	
Lester	50 	Poor 	Fair 	Good 	Good	Good	Very   poor	Very   poor	Fair 	Good	Very   poor	
Ridgeton	   30	  Fair	  Good	  Good	  Good	  Good	  Very	  Very	  Good	  Good	  Very	
	 	! 	 	 	 	 	poor 	poor 	 	 	poor 	
Cokato	10 	Poor	Fair 	Good 	Good	Good	Very   poor	Very   poor	Fair 	Good	Very   poor	
Belview	   6 	  Fair 	  Good 	  Good 	  Fair 	  Poor 	  Very   poor	  Very   poor	  Fair 	  Fair 	  Very   poor	
Hamel	   2	  Good	  Good	  Fair	  Good	  Fair	  Good	  Good	  Good	  Fair	  Good	
Terril	   2	  Good	  Good	  Good	  Good	  Good	  Poor	  Poor	  Good	  Good	  Poor	
L110F:	 	! 	 	! 	 	 	 	! 	 	 	 	
Lester	55 	Poor	Fair 	Good	Good	Good 	Very   poor	Very   poor	Fair 	Good	Very   poor	
Ridgeton	   30 	  Fair 	  Good 	  Good 	  Good 	  Good 	  Very   poor	  Very   poor	  Good 	  Good 	  Very   poor	
Cokato	   8 	  Poor 	  Fair 	  Good 	  Good 	  Good 	  Very   poor	  Very   poor	  Fair 	  Good 	  Very   poor	
Belview	   4 	  Poor 	  Fair 	  Good 	  Fair 	  Poor 	  Very   poor	  Very   poor	  Fair 	  Fair 	  Very   poor	
Terril	   2	  Good	  Good	  Good	  Good	  Good	  Poor	  Poor	  Good	  Good	  Poor	
Hamel	   1	  Good	  Good	  Fair	  Good	  Fair	  Good	  Good	  Good	  Fair	  Good	
Hame1	1	Good	Good	Fair 	Good	Fair 	Good	Good	Good	Fair 	 	

Table 9.--Wildlife Habitat--Continued

	 	<u> </u>	Pote	ential f	or habit	at eleme	nts		Potenti	al as ha	bitat for
Map symbol	Pct. of	Grain	I	Wild		Ī	1	I	Open-	Wood-	Wetland
and	map unit	and	Grasses	herba-	Hard-	Conif-	Wetland	Shallow		land	wild-
component name	i -	seed	and	ceous	wood	:	plants	water	wild-	wild-	life
-	İ	crops	legumes	plants	trees	plants	i	areas	life	life	İ
		i	İ	i	İ	Ī	İ	İ	İ	İ	İ
L111A:	İ	j	į	j	į	į	į	j	j	į	İ
Nicollet	85	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Clarion	10	Good	Good	Good	Good	Good	Poor	Very	Good	Good	Very
								poor			poor
			!			!	!	ļ			!
Webster	5	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
71103		 		 		!			 		ļ
L112A: Webster	l   85	  Good	  Good	  Good	  Fair	  Poor	  Good	l  Good	  Good	  Fair	  Good
Webster	l 63	l Good	l Good	i Good	Fall	I	l Good	i Good	i Good	Fair	l Good
Glencoe	10	  Good	  Good	  Fair	  Fair	Fair	Good	  Good	  Good	  Fair	  Good
Nicollet	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
	İ	İ	i	İ	i	i	i	İ	İ	i	i
L113B:	ĺ	ĺ	ĺ	ĺ	İ	İ	İ	ĺ	ĺ	ĺ	ĺ
Reedslake	75	Good	Good	Good	Good	Good	Very	Very	Good	Good	Very
							poor	poor			poor
Le Sueur	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Reedslake, eroded	10	Good	Good	Good	Good	Good	: -	: -	Good	Good	Very
		 		 			poor	poor	 		poor
Cordova	l l 5	l  Good	l  Good	l  Good	  Fair	  Fair	  Good	l  Good	  Good	  Fair	  Good
COLGOVA	, J	l Good	l Good	l Good	Fall	Fall	l Good	l Good	l Good	Fair	l Good
L114A:	] 	! 	! 	! 	i i		i i	l İ	! 	! 	l I
Hanlon, rarely flooded	l 85	  Good	  Good	  Good	Good	Good	Poor	  Fair	  Good	Good	Poor
			i		İ	i	i	i			İ
Coland, occasionally	İ	İ	i	İ	i	i	i	İ	İ	i	İ
flooded	10	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Minneopa, rarely flooded	5	Fair	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor
L115A:				ļ 	ļ .	ļ .	ļ .			! .	
Brownton	55	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Lura	]   35	  Poor	   Da ana	   De ess	   De ess	   Decem			   De ess	   De ess	
Lura	35 	POOT	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
Marna	   10	l  Good	  Good	  Fair	  Fair	  Fair	  Good	l  Good	l  Good	  Fair	  Good
Mariia	±0 	l Good	l Good				l	l Good	l Good		I
L116A:		! 	İ	i İ	i	i	i	! 	i İ	İ	i
Le Sueur	45	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
	İ	İ	İ	İ	i	İ	i	į	İ	İ	İ
Lerdal	40	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Mazaska	10	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Kilkenny	5	Good	Good	Good	Good	Good	Poor	Very	Good	Good	Very
			ļ	ļ	ļ	ļ	ļ	poor	ļ	!	poor
T11EG0						!					ļ
L117C2:	   65	   Doom	  Enim	  Cood	  Cood	  Cood	170000		  Poin	  Cood	
Omsrud, eroded	65 	Poor	Fair 	Good 	Good 	Good 	Very   poor	Very   poor	Fair 	Good 	Very   poor
	! 	i İ	İ	! 	i			2001	! 	İ	1001
Omsrud	15	Poor	  Fair	  Good	  Good	Good	  Very	  Very	  Fair	  Good	  Very
			İ	i			poor	poor	i	i	poor
	İ	İ	İ	İ	į	İ	i -	İ	İ	İ	İ
Terril	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
											l
Delft	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good

Table 9.--Wildlife Habitat--Continued

Potential for habitat elements   Potential as habitat for													
Map symbol	Pct. of	Grain	I	Wild	I	I	I	I	Open-	Wood-	Wetland		
and	map unit	!	Grasses		   Hard-	  Conif-	Wetland	ı İshallow	: -	land	wild-		
component name	map anic	seed	and	ceous	wood	:	plants	water	wild-	wild-	life		
component name		!	!	!		:	Prants	:			l iire		
		crops	legumes	prants	trees	plants		areas	life	life	-		
											!		
L117C2:													
Storden, eroded	5	Fair	Good	Good	Fair	Poor	Very	Very	Fair	Fair	Very		
İ		ĺ	Ì	Ì	İ	İ	poor	poor	Ì	Ì	poor		
i		i	i	i	i	i	i -	i -	i	i	i -		
L118A:		i	i	i	i	i	i	i	i	i	i		
		! !	! !	<u> </u>	:	1	:	! !	<u> </u>	!	1		
Rushriver, frequently		l -	! !	! !	!	!			! !	!	I		
flooded	85	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good		
Houghton, frequently													
flooded	5	Very	Very	Very	Very	Very	Good	Good	Very	Very	Good		
i		poor	poor	poor	poor	poor	i	i	poor	poor	i		
		F00_	F001	F002	1	1	:	:	F00_	1			
**1		!	! !	!	!	!	!	! !	!	!	1		
Klossner, frequently	_	l !		ļ !	1	1			ļ !	 	ļ		
flooded	5	Very	Very	Very	Very	Very	Good	Good	Very	Very	Good		
		poor	poor	poor	poor	poor			poor	poor			
		l	I	I	I	1	I	I	I	I	I		
Medo, frequently flooded	5	Fair	Fair	Poor	Poor	Poor	Good	Good	Fair	Poor	Good		
mode, frequency freeded		 	1	1	1	1	1	ı	- w	1	1		
T110D		!	! !	!	!	!	!	! !	!	!	1		
L119B:		!	!	! _	! _	! .	!	!	!	! _	!		
Angus	80	Good	Good	Good	Good	Good	Very	Very	Good	Good	Very		
							poor	poor			poor		
		I	I	I	I	1	I	I	I	I	I		
Angus, eroded	10	Good	Good	Good	Good	Good	Very	Very	Good	Good	Very		
1213427 010404		1	1	1	1	1	poor	: -	1	1	_		
		!	!	!	!	!	l boor	poor	!	!	poor		
		l		ļ	!	1	!		ļ	!	!		
Cordova	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good		
					1		1			1	1		
Le Sueur	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor		
					i	i	i	i		1	i		
L120A:		<u> </u>	:	! !	:	:	:	:	:	:	1		
		   a 3	   a 1	   a 3	   a 3	   a 1	   D =	   m = ===	l Imagan	   a 3	   D		
Good Thunder	80	Good	Good	Good	Good	Good	Poor	Poor	Fair	Good	Poor		
		l		l					l	l			
Ocheyedan	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor		
					1		1			1	1		
Minnetonka	10	Good	Good	Good	Good	Good	Good	Good	Good	Fair	Good		
i		i	i	i	i	i	i	i	i	i	i		
L121B:		:	:	:	:	i	:	:	:	:			
		   a 3	   a 1	   a 3	   a 3	   a 1	   D =	 	   a 3	   a 3	 		
Clarion	80	Good	Good	Good	Good	Good	Poor	Very	Good	Good	Very		
		l	l	l				poor	l	l	poor		
Guckeen	15	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair		
		İ	İ	İ	i	i	i	İ	İ	İ	İ		
Marna	5	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good		
Mai IIa	j	l GOOG	1	I all	Fall	Irair	1	1	l GOOG	Fall	1		
		!	!	!	!	!	!	!	!	!	!		
L122B:		l	l	l	I		I	l	l	l	1		
Reedslake	55	Good	Good	Good	Good	Good	Very	Very	Good	Good	Very		
		l	I	I	I	1	poor	poor	I	I	poor		
i	İ	İ	İ	İ	i	i	i	İ	i	i	i		
Estherville	25	Fair	Fair	Fair	Fair	Fair	Verv	Verv	Fair	Fair	Very		
ESCHEL ATTIE	23	Fall	Fall	Fall	Fall	Irair			Fall	Fall	_		
		!	!	!	!	!	poor	poor	!	!	poor		
		l	l	l	I		I	l	l	l			
Le Sueur	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor		
İ		1	1	1	1		1	1	1		I		
Cordova	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good		
	-	, <del></del>	, <del></del>	, <del></del> 	i	i		, <del></del>	, <del></del> 	i	i		
T 3 - 4	_	   a 3	   a 1	   a 3	   a 3	   a 1	   D =	   m = ===	   a 3	   a 3	   D		
Lowlein	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor		
				l	!	1	!		l	[	I		
L123A:											[		
Belleville	85	Fair	Fair	Good	Poor	Poor	Fair	Fair	Fair	Poor	Fair		
		i	i	i	i	i	i	i	i	i	i		
Granby	15	  Poor	  Poor	  Fair	  Fair	  Fair	  Good	I  Good	  Poor	  Fair	  Good		
Graimy	1 13	1 2.001	1 2001	l art	l.art	l.arr	1 3000	300a 	1 2.001	l.arr	1 3000		
	l	I	I	I	I	I	I	I	I	I	I		

Table 9.--Wildlife Habitat--Continued

			Pote	ential f	or habit	at eleme	nts		Potenti	al as hal	oitat for-
Map symbol	Pct. of	Grain		Wild	l		[		Open-	Wood-	Wetland
and	map unit	and	Grasses	herba-	Hard-	Conif-	Wetland	Shallow	land	land	wild-
component name		seed	and	ceous	wood	erous	plants	water	wild-	wild-	life
		crops	legumes	plants	trees	plants		areas	life	life	
			!		!	!	!		<u> </u>	!	
L124A:				l 	 					<u> </u>	ļ
Glencoe mucky clay loam	85	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Coninto	10			   ===================================	   == -:	   == : ==		   a 4	   a 4	   == d ==	
Canisteo	10	Good 	Good	Fair	Fair	Fair	Good	Good 	Good	Fair	Good
Glencoe clay loam	5	  Good	  Good	  Fair	  Fair	  Fair	  Good	  Good	I  Good	  Fair	  Good
Grencoe Cray Toam	3	l GOOG	l Good	raii	l arr	l arr	l Good	l Good	l Good	l arr	l Good
L125A:			! 	l İ	! 	! 	! 	! 	! 	l İ	I I
Hanlon, rarely flooded	60	  Good	Good	  Good	Good	Good	Poor	  Fair	  Good	Good	Poor
Coland, occasionally			i	İ	İ	i	i	İ	İ	İ	İ
flooded	25	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
		İ	į	İ	j	İ	į	İ	j	j	İ
Minneopa, rarely flooded	15	Fair	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor
											l
L126A:											l
Coland, occasionally							[		l		
flooded	80	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Minneopa, occasionally									ļ		<u> </u>
flooded	10	Fair	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor
			!								
Havelock, occasionally	-		   a a		 	l mada			   a 1	 	
flooded	5	Good 	Good	Good 	Fair	Fair	Good	Good 	Good	Fair	Good
Spillville, occasionally		l I	 	l I	 	l I	 	l I	l I	 	l I
flooded		  Good	  Good	  Good	  Good	  Good	  Fair	  Fair	  Good	  Good	  Fair
1100ded	3	l GOOG	l Good	l Good	l Good	l Good	Fair	raii 	i Good	l Good	raii 
L127A:			! 	l İ	! 	! 	! 	! 	! 	l İ	I I
Coland, frequently			i	l I	! !	! !	i	l İ	! 	! !	! I
flooded	80	Poor	Fair	Fair	Poor	Poor	Good	Good	Poor	Poor	Good
			i	İ	İ	i	i	İ	İ	İ	İ
Minneopa, occasionally		İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
flooded	10	Fair	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor
											l
Havelock, frequently											
flooded	5	Poor	Fair	Fair	Poor	Poor	Good	Good	Poor	Fair	Good
			!								<u> </u>
Spillville, occasionally								 			<u> </u>
flooded	5	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
T1003		l		İ				l i	 		ļ
L128A: Mazaska	60	  Good	  Good	  Good	  Fair	  Fair	  Good	l  Good	l  Good	  Fair	l  Good
Mazaska	60	GOOG 	l Good	GOOG 	learr	learr	l Good	GOOG 	l Good	rair	i Good
Rolfe	30	  Fair	  Fair	  Fair	  Fair	  Poor	  Good	  Good	  Fair	  Fair	l  Good
ROILE	30	raii 	raii 	raii 	Fair	l LOOT	l Good	l Good	raii 	Fair 	l Good
Lerdal	10	  Good	  Good	I  Good	  Good	  Good	Poor	  Poor	  Good	  Good	  Poor
202 442	_0										
L129B:		i	i	İ	i	i	i		i	i	i
Terril	90	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
			i	İ	İ	i	i	İ	İ	İ	İ
Delft	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
			İ		İ	İ	İ		İ	İ	İ
Hamel	5	Good	Good	Fair	Good	Fair	Good	Good	Good	Fair	Good
				l	l				l	l	
L130A:											
Okoboji mucky silty clay											
loam	75	Fair	Fair	Fair	Fair	Very	Good	Good	Fair	Fair	Good
						poor					
		l	[	l			[				
Okoboji silty clay loam	15	Fair	Fair	Fair	Fair	Very	Good	Good	Fair	Fair	Good
			[		ļ.	poor	!		!	ļ.	
			I		I	I	I	l	I	I	I

Table 9.--Wildlife Habitat--Continued

I		l	Pot	ential f	or habit	at eleme	ents		Potenti	al as ha	bitat for-
Map symbol	Pct. of	Grain		Wild					Open-	Wood-	Wetland
and	map unit	and	Grasses	herba-	Hard-	Conif-	Wetland	Shallow	land	land	wild-
component name		seed	and	ceous	wood	erous	plants	water	wild-	wild-	life
		crops	legumes	plants	trees	plants		areas	life	life	
-1202											
L130A:		!	!	! .	! .	! .		!	!	! .	! .
Brownton	5	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Spicer	5	  Good	Good	  Fair	  Fair	Poor	Good	  Good	  Good	Fair	  Good
M-W.		 	 	 	 	 		 	 		 
Water, miscellaneous		į	į	į	į	į	į	į	į	į	į
**3D										!	
U3B.		 		 			1	 	 	!	l I
Udorthents (cut and fill land)		l I	l I	 	 	 		! 	! 	i i	 
i		İ	İ	į	į	İ	į	İ	j	İ	į
w.											
Water											
İ		I	I	I	I	I	1	I	I	I	I

## Table 10a.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

GP: Pits, gravel	ot rated ot rated ot rated omewhat limited Depth to saturated zone Shrink-swell ory limited Depth to saturated zone Shrink-swell ory limited Depth to saturated zone Shrink-swell ory limited Ponding	 	limiting features  Not rated  Not rated  Very limited  Depth to  saturated zone  Shrink-swell  Very limited  Depth to  saturated zone  Shrink-swell  Very limited  Very limited	              1.00        0.50	Rating class and limiting features  Not rated  Not rated  Somewhat limited Depth to saturated zone Shrink-swell  Very limited Depth to saturated zone Shrink-swell	Value
GP: Pits, gravel	ot rated ot rated ot rated ot rated omewhat limited Depth to saturated zone Shrink-swell ory limited Depth to saturated zone Shrink-swell ory limited Ponding Depth to	            0.98    0.50      1.00    0.50	limiting features  Not rated  Not rated  Very limited  Depth to  saturated zone  Shrink-swell  Very limited  Depth to  saturated zone  Shrink-swell  Very limited  Very limited	            1.00        1.00	Not rated  Not rated  Somewhat limited Depth to saturated zone Shrink-swell  Very limited Depth to saturated zone	  0.50 
Pits, gravel	omewhat limited Depth to saturated zone Shrink-swell ery limited Depth to saturated zone Shrink-swell ery limited Ponding Depth to	          0.98    0.50    1.00    1.00	Not rated  Very limited Depth to saturated zone Shrink-swell  Very limited Depth to saturated zone Shrink-swell  Very limited	          1.00          1.00	Not rated  Somewhat limited  Depth to  saturated zone  Shrink-swell  Very limited  Depth to  saturated zone	  0.50 
Udipsamments	omewhat limited Depth to saturated zone Shrink-swell ery limited Depth to saturated zone Shrink-swell ery limited Ponding Depth to	          0.98    0.50    1.00    1.00	Not rated  Very limited Depth to saturated zone Shrink-swell  Very limited Depth to saturated zone Shrink-swell  Very limited	          1.00          1.00	Not rated  Somewhat limited  Depth to  saturated zone  Shrink-swell  Very limited  Depth to  saturated zone	  0.50 
Delft, overwash 50   Sc	omewhat limited Depth to saturated zone Shrink-swell  Gery limited Depth to saturated zone Shrink-swell  Gery limited Ponding Depth to	       0.98   0.50   1.00   1.00   1.00	Very limited Depth to saturated zone Shrink-swell  Very limited Depth to saturated zone Shrink-swell  Very limited	    1.00      0.50     	Somewhat limited Depth to saturated zone Shrink-swell Very limited Depth to saturated zone	  0.50 
Delft, overwash 50 Sc  Delft 40 Ve  Glencoe 5 Ve  Terril 5 Sc  L13A:  Klossner, drained 80 Ve	Depth to saturated zone Shrink-swell  ery limited Depth to saturated zone Shrink-swell  ery limited Ponding Depth to	0.98    0.50    1.00    0.50   	Depth to saturated zone Shrink-swell  Very limited Depth to saturated zone Shrink-swell  Very limited	1.00   	Depth to saturated zone Shrink-swell  Very limited Depth to saturated zone	  0.50 
Delft	Depth to saturated zone Shrink-swell  ery limited Depth to saturated zone Shrink-swell  ery limited Ponding Depth to	0.98    0.50    1.00    0.50   	Depth to saturated zone Shrink-swell  Very limited Depth to saturated zone Shrink-swell  Very limited	1.00   	Depth to saturated zone Shrink-swell  Very limited Depth to saturated zone	  0.50 
Glencoe	saturated zone Shrink-swell  ery limited Depth to saturated zone Shrink-swell  ery limited Ponding Depth to	  0.50    1.00    0.50    1.00	saturated zone Shrink-swell  Very limited Depth to saturated zone Shrink-swell  Very limited	  0.50	saturated zone Shrink-swell  Very limited  Depth to saturated zone	  0.50 
Glencoe	Shrink-swell  ery limited Depth to saturated zone Shrink-swell  ery limited Ponding Depth to	  1.00    0.50    1.00	Shrink-swell  Very limited  Depth to  saturated zone  Shrink-swell  Very limited	    1.00   	Shrink-swell Very limited Depth to saturated zone	İ
Glencoe	Depth to saturated zone Shrink-swell ery limited Ponding Depth to	1.00    0.50      1.00	Very limited Depth to saturated zone Shrink-swell Very limited	    1.00   	Depth to saturated zone	    1.00
Glencoe 5   Ve	Depth to saturated zone Shrink-swell ery limited Ponding Depth to	1.00    0.50      1.00	Depth to saturated zone Shrink-swell Very limited	  1.00   	Depth to saturated zone	  1.00 
Terril	saturated zone Shrink-swell ery limited Ponding Depth to	  0.50      1.00	saturated zone Shrink-swell Very limited	i i	saturated zone	1.00 
Terril	Shrink-swell ery limited Ponding Depth to	    1.00	Shrink-swell Very limited	  0.50		1
Terril	ery limited Ponding Depth to	    1.00	Very limited	10.30	DIII IIIK-BWCII	10.50
Terril	Ponding Depth to	1.00	=	l 1	İ	
L13A:  Klossner, drained 80   Ve	Depth to			i i	Very limited	į
L13A:  Klossner, drained 80   Ve	-	1.00	Ponding	1.00	Ponding	1.00
L13A:  Klossner, drained 80   Ve	saturated zone		_	1.00	_	1.00
L13A:  Klossner, drained 80   Ve	-1 1 1 7 7 7		saturated zone		saturated zone	
L13A:  Klossner, drained 80   Ve	Shrink-swell	0.50 	Shrink-swell	0.50   	Shrink-swell	0.50
Klossner, drained 80 Ve	omewhat limited	i	Very limited	i i	Somewhat limited	i
Klossner, drained 80 Ve	Depth to	0.01	Depth to	1.00	Depth to	0.01
Klossner, drained 80 Ve	saturated zone		saturated zone		saturated zone	
		l I		 		i
Mineral soil,	ery limited	į	Very limited	į į	Very limited	İ
Mineral soil,		1.00		1.00		1.00
Mineral soil,	Content of	1.00	_	1.00		1.00
Mineral soil,	organic matter Depth to	1.00	saturated zone Ponding	  1.00	organic matter Depth to	11.00
	saturated zone	1	Shrink-swell	0.50	saturated zone	1
		1.00			Ponding	1.00
įį	ery limited	i	Very limited	i i	  Very limited	i
1 1	Depth to	1.00		1.00	Depth to	1.00
1 1	saturated zone		saturated zone		saturated zone	1
į į	Ponding	1.00	Ponding	1.00	_	1.00
	Shrink-swell	0.50		 	Shrink-swell	0.50
Houghton, drained 5   Ve			Very limited		  Very limited	
į į	ery limited	1.00	Subsidence	1.00	Subsidence	1.00
Į I	ery limited Subsidence	1.00	Content of	1.00	Content of	1.00
!!	Subsidence Content of		organic matter		organic matter	
	Subsidence Content of organic matter			1.00	Depth to saturated zone	1.00
	Subsidence Content of	1.00	Depth to saturated zone		saturated zone	1

Table 10a.--Building Site Development--Continued

component name	Pct. of map unit	basements	ut	   Dwellings with   basements   		   Small commercia   buildings   	1
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and	Value
	l		1		1		1
L14A:	i	İ	i	İ	i	İ	i
Houghton, drained	80	! -	:	Very limited	:	Very limited	ļ
		Subsidence	11.00	Subsidence	11.00	Subsidence	11.00
	l I	Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
	İ	Depth to	1.00	Depth to	1.00	Depth to	1.00
	j	saturated zone	į	saturated zone	į	saturated zone	İ
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Klossner, drained	   10	  Very limited		  Very limited		  Very limited	
RIOSSHEI, GIGINEG	±0 	Subsidence	11.00	Subsidence	1	Subsidence	11.00
	<u> </u>	Content of	1.00	!	1.00	Content of	1.00
j	ĺ	organic matter	İ	saturated zone	ĺ	organic matter	Ì
		Depth to	1.00	Ponding	1.00	Depth to	1.00
	l i	saturated zone	11 00	Shrink-swell	0.50	saturated zone	11 00
	 	Ponding 	1.00 	 	 	Ponding 	1.00
Mineral soil,	ĺ	İ	i	İ	i	İ	j
drained	10	Very limited	:	Very limited	!	Very limited	1
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	l I	Ponding	1	!	1	Ponding	1 1.00
	İ	Shrink-swell	0.50			Shrink-swell	0.50
		!	İ	!	I	!	
L15A:	   20	 		 		 	
Klossner, ponded	30 	Ponding	1	Very limited   Ponding	1	Very limited   Ponding	1 1.00
	<u> </u>	Subsidence	1.00	!	1.00	Subsidence	1.00
	ĺ	Content of	1.00	Depth to	1.00	Content of	1.00
		organic matter		saturated zone		organic matter	
	l I	Depth to saturated zone	1.00	Shrink-swell	0.50 	Depth to saturated zone	1.00
	 	Sacuraced Zone	i	! 	i	sacuraced zone	
Okoboji, ponded	30	Very limited	İ	Very limited	į	Very limited	İ
		Ponding	1.00		1.00	Ponding	1.00
	 	Shrink-swell Depth to	1.00	Shrink-swell Depth to	1.00  1.00	Shrink-swell Depth to	1.00
	 	saturated zone	1	saturated zone	1	saturated zone	
	ĺ	İ	i	İ	i	İ	j
Glencoe, ponded	30			Very limited	•	Very limited	ļ
	 	Ponding	1.00	Ponding	1.00	Ponding Depth to	1.00
	l I	Depth to saturated zone	1.00 	Depth to saturated zone	1.00 	saturated zone	1
	İ	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			ļ		ļ		
Houghton, ponded	10	! -	1	Very limited   Ponding	:	Very limited   Ponding	11 00
	l I	Ponding Subsidence	1.00  1.00		1.00  1.00		1.00
	İ	Content of	1.00	!	1.00	Content of	1.00
	İ	organic matter	İ	organic matter	į	organic matter	İ
		Depth to	1.00	! -	1.00	Depth to	1.00
	 	saturated zone		saturated zone		saturated zone	
L16A:						 	
Muskego, ponded	30	Very limited		  Very limited		Very limited	
		Ponding	1.00		1.00		1.00
	l I	Subsidence	11.00	!	1.00	!	1.00
	l I	Content of organic matter	1.00 	Content of organic matter	1.00 	Content of organic matter	1.00
	i	Depth to	1.00	:	1.00	Depth to	1.00
	I	Depen co	10	201011 00	1-00	201011 00	1-00

Table 10a.--Building Site Development--Continued

	of map	basements	ut	Dwellings with basements		Small commercia   buildings	1
 	unit		Value	Rating class and	Value	   Rating class and	Value
i		limiting features	<u>i</u>	limiting features		limiting features	<u>i</u>
-163			!				
L16A:   Blue Earth, ponded	30	  Verv limited	1	  Very limited	l I	  Very limited	
brue Bartin, policed	50	Ponding	1	! -	1	_	11.00
i		Content of	11.00	!	1.00	Content of	11.00
i		organic matter	i	organic matter	i	organic matter	i
į		Depth to	1.00	Depth to	1.00	Depth to	1.00
1		saturated zone		saturated zone		saturated zone	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			!				!
Houghton, ponded	30	-	:	Very limited	:	Very limited	1 00
-		Ponding Subsidence	1.00	!	1.00  1.00		1.00
		Content of	11.00	!	11.00	!	11.00
i		organic matter		organic matter		organic matter	
i		Depth to	1.00	!	1.00		1.00
į		saturated zone	į	saturated zone	j	saturated zone	į
I							
Klossner, ponded	10		:	Very limited	:	Very limited	!
!		Ponding	1.00	!	1.00		1.00
		Subsidence	11.00	!	1.00	1	11.00
1		Content of organic matter	1.00	Depth to saturated zone	1.00	Content of   organic matter	1.00
		Depth to	1	!	0.50		1
i		saturated zone				saturated zone	
i			i	İ	i		i
L26B:		ĺ	İ	İ	Ì	ĺ	Ì
Shorewood	90		:	Very limited	:	Very limited	
!		Shrink-swell	1.00	!	1.00	!	1.00
		Depth to	0.98	! -	1.00	_	0.98
		saturated zone		saturated zone	l i	saturated zone	
Good Thunder	5	  Very limited	i	  Very limited	i	  Very limited	ŀ
		Shrink-swell	1.00	! -	1.00	_	1.00
į		Depth to	0.01	saturated zone	İ	Depth to	0.01
1		saturated zone				saturated zone	
			!				!
Minnetonka	5	Very limited	:	Very limited	:	Very limited	
		Shrink-swell Depth to	1.00		1.00	Shrink-swell Depth to	1.00
		saturated zone	1	Shrink-swell	  0.50	saturated zone	1
			i				i
L36A:			i	İ	i		i
Hamel, overwash	50	Somewhat limited		Very limited		Somewhat limited	
ļ		Depth to	0.98	Depth to	1.00	_	0.98
!		saturated zone	!	saturated zone		saturated zone	ļ
		 		Shrink-swell	0.50	 	!
  Hamel	43	  Verv limited		  Very limited	 	  Very limited	
		Depth to	:	! -	!	Depth to	11.00
i		saturated zone	i	saturated zone	i	saturated zone	i
į		Shrink-swell	0.50	İ	j	Shrink-swell	0.50
1							
·	5	Not limited	ļ	Somewhat limited	!	Not limited	ļ
Terril				Depth to	0.78		!
Terril		I	1	saturated zone 	 	I 	1
Terril      					I	1	i
Terril                  	2	  Very limited	i	  Very limited	1	Very limited	İ
 	2	  Very limited   Depth to	:	  Very limited   Depth to	  1.00	_	  1.00
 	2	-	:	! -	:	_	  1.00 
 	2	Depth to saturated zone Ponding	:	Depth to   saturated zone   Ponding	:	Depth to saturated zone	  1.00    1.00  0.50

Table 10a.--Building Site Development--Continued

component name	Pct. of map	basements	ut	Dwellings with basements		Small commercia   buildings 	1
	unit   	'	•	   Rating class and   limiting features		   Rating class and   limiting features	Value
L40B: Angus	     45   	!	      0.50	  Somewhat limited   Depth to   saturated zone	      0.78 	    Somewhat limited   Shrink-swell	      0.50
Kilkenny	   40     	Depth to saturated zone	  0.88    0.50	  Very limited   Depth to   saturated zone	    1.00   	  Somewhat limited   Depth to   saturated zone   Shrink-swell	  0.88    0.50
Lerdal	   10     	Shrink-swell	•	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Shrink-swell   Depth to   saturated zone	  1.00  0.90
Mazaska	   5     	!	  1.00  1.00 	! -		  Very limited   Shrink-swell   Depth to   saturated zone	  1.00  1.00
L41C2:	ĺ	İ	İ	İ	Ì	İ	İ
Lester, eroded	45   	!	  0.50  0.04	!	  0.50  0.04		  1.00  0.50
Kilkenny, eroded	   40       	!	  0.50  0.04 	! -	  1.00    0.50  0.04	Shrink-swell	  1.00  0.50 
Terril	   10   	  Not limited   	     	  Somewhat limited   Depth to   saturated zone	    0.78 	  Not limited   	     
Derrynane	   5     		  1.00  1.00		 	Depth to	  1.00  1.00
L41D2:	 	 		 	i i	 	
Lester, eroded	   45   	Slope	  1.00  0.50		  1.00  0.50		  1.00  0.50
Kilkenny, eroded	   35       		  1.00  0.50 		  1.00  1.00      0.50	<u> </u>	  1.00  0.50 
Terril	   10   	  Not limited   	     	  Somewhat limited   Depth to   saturated zone	    0.78 	  Not limited   	     
Derrynane	   5     	!	    1.00  1.00 	! -	    1.00    0.50	Depth to	  1.00  1.00 

Table 10a.--Building Site Development--Continued

component name	Pct. of map unit	basements	ut	Dwellings with   basements 		Small commercia   buildings 	1
	 	Rating class and	•	Rating class and   limiting features			Value
L41D2: Ridgeton	     5 	    Somewhat limited   Slope	      0.16	    Somewhat limited   Slope	      0.16	    Very limited   Slope	      1.00
L41E: Lester	     45 	Slope	      1.00  0.50	  Very limited   Slope 	      1.00	  Very limited   Slope   Shrink-swell	    1.00  0.50
Kilkenny	   40     	Slope	    1.00  0.50	· -		  Very limited   Slope   Shrink-swell	  1.00  0.50
Terril	   5   	  Not limited   	     	  Somewhat limited   Depth to   saturated zone	    0.78 	  Not limited   	     
Derrynane	   5     	Shrink-swell		  Very limited   Depth to   saturated zone   Shrink-swell	    1.00    1.00	Depth to	  1.00  1.00
Ridgeton	   5 	!	    0.96	  Somewhat limited   Slope	    0.96	  Very limited   Slope	1.00
L48A:	l I	 		 		 	1
Derrynane, overwash	   50   	Shrink-swell	  1.00  0.98	!	  1.00  1.00	!	  1.00  0.98
Derrynane	   40     	Shrink-swell	1.00	•	    1.00    0.50	Depth to	  1.00  1.00
Glencoe	   5       	· -	  1.00  1.00    0.50	· -	  1.00  1.00    0.50	!	  1.00  1.00    0.50
Terril	   5 	  Not limited   	     	  Somewhat limited   Depth to   saturated zone	    0.78 	  Not limited   	     
L49A: Klossner, surface drained	       65   	Subsidence Content of organic matter	1.00  1.00 	Depth to saturated zone	1.00  1.00 	Content of organic matter	      1.00  1.00
	     	Depth to   saturated zone   Ponding 	1.00    1.00 	Shrink-swell	1.00  0.50   	Depth to   saturated zone   Ponding 	1.00    1.00 

Table 10a.--Building Site Development--Continued

component name	Pct. of map	basements	ut	Dwellings with basements		Small commercia   buildings 	al
	unit   	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value
- 40-			!		ļ		
L49A: Klossner, drained	20	  Vory limited	!	  Very limited		  Very limited	!
RIOSSHEI, GIAINEG	20 	Subsidence	1	Subsidence	1	Subsidence	1 1.00
	i	Content of	11.00	Depth to	11.00	Content of	11.00
	i	organic matter	i	saturated zone	i	organic matter	i
	ĺ	Depth to	1.00	Ponding	1.00	Depth to	1.00
		saturated zone		Shrink-swell	0.50	saturated zone	
		Ponding	1.00		ļ	Ponding	1.00
Mineral soil,	 	 		 		 	
drained	l l 15	  Very limited	i	  Very limited	ŀ	  Very limited	i
		Depth to	1.00	Depth to	1.00	Depth to	1.00
	i	saturated zone	i	saturated zone	i	saturated zone	i
	ĺ	Ponding	1.00	Ponding	1.00	Ponding	1.00
		Shrink-swell	0.50	[	[	Shrink-swell	0.50
							!
L50A: Houghton, surface	 	 		 		 	
drained	   40	  Very limited	1	  Very limited	ŀ	  Very limited	i
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	į	Content of	1.00	Content of	1.00	Content of	1.00
	ĺ	organic matter	İ	organic matter	İ	organic matter	İ
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone	1	saturated zone		saturated zone	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Muskego, surface	l I	 		 		 	1
drained	40	  Very limited	i	  Very limited	i	  Very limited	i
	i	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	İ	Content of	1.00	Content of	1.00	Content of	1.00
		organic matter		organic matter		organic matter	
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
	 	Ponding	1.00	Ponding	1.00	Ponding	1.00
Klossner, drained	l   10	  Very limited	1	  Very limited	1	  Very limited	i
,		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	į	Content of	1.00	Depth to	1.00	Content of	1.00
		organic matter		saturated zone		organic matter	
		Depth to	1.00	Ponding	1.00	Depth to	1.00
		saturated zone		Shrink-swell	0.50	saturated zone	
	l I	Ponding 	1.00	 		Ponding	1.00
Mineral soil,	i İ	! 	i	! 	i	! 	i
drained	10	Very limited	i	Very limited	i	Very limited	i
	İ	Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Shrink-swell	0.50		ļ	Shrink-swell	0.50
L51C2:	l I	] 	1	 		 	1
Gladek, eroded	I   80	  Somewhat limited	1	  Somewhat limited	1	  Very limited	
,	, J <b>J</b>	Shrink-swell	0.50	Slope	0.04		1.00
	İ	Slope	0.04	j	į	Shrink-swell	0.50
	[		[	!	ļ	ļ	!
Barrington	10		1	Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to	1.00	Shrink-swell	0.50
	 	Depth to saturated zone	0.01	saturated zone		Depth to saturated zone	0.01
				i .	i		

Table 10a.--Building Site Development--Continued

Map symbol and component name	Pct. of map		ut	Dwellings with basements	ı	Small commercia   buildings 	11
	unit   	   Rating class and   limiting features	Value	   Rating class and   limiting features		   Rating class and   limiting features	Value
					ļ		
L51C2: Lester, eroded	   5 	  Somewhat limited   Shrink-swell	0.50	  Somewhat limited   Shrink-swell   Slope	    0.50  0.04	  Very limited   Slope	1.00
		Slope 	0.04 	Slope	10.04	Shrink-swell 	0.50 
Madelia	5     	Very limited Depth to saturated zone Shrink-swell	  1.00    0.50	   Very limited   Depth to   saturated zone	1.00	Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50
L56A:		 		 	l	 	
Muskego, frequently	i	 	i	! 	i	! 	i
flooded	45         	Very limited Ponding Subsidence Flooding Content of organic matter	  1.00  1.00  1.00  1.00	Subsidence   Flooding	  1.00  1.00  1.00  1.00	Subsidence	  1.00  1.00  1.00  1.00
	 	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Klossner, frequently flooded		    Very limited	   	    Very limited	   	    Very limited	
1100000	13	Ponding	1.00	! -	1.00	! -	1.00
	i	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Content of organic matter	1.00	Depth to saturated zone	1.00	Content of organic matter	1.00
	   	Depth to   saturated zone	1.00	Shrink-swell	0.50	Depth to   saturated zone	1.00
Suckercreek,		 		 		 	
frequently flooded	10	  Very limited	i	  Very limited	i	  Very limited	i
	į	Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L57A:	 			 		 	
Medo, drained	80			Very limited	1	Very limited	İ
	ļ	Ponding	1.00		1.00	Ponding	1.00
		Subsidence Content of	1.00	Subsidence	1.00  1.00	Subsidence Content of	1.00
	     	organic matter Depth to saturated zone	  1.00  1.00	Depth to   saturated zone   		organic matter Depth to saturated zone	11.00
Mineral soil,	l I	 	 	 		 	
drained	15	  Very limited	i	  Very limited	i	  Very limited	i
	į	Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Houghton, drained	   5	  Very limited	•	  Very limited	1	  Very limited	
	ļ	Ponding	1.00		1.00		11.00
		Subsidence	1.00	!	11.00	•	11.00
	1	Content of	1.00	Content of	1.00	Content of	1.00
	i	organic matter	I	organic matter	1	organic matter	1
	j I	organic matter Depth to	  1.00	organic matter Depth to	  1.00	organic matter Depth to	1.00

Table 10a.--Building Site Development--Continued

component name	Pct. of map	basements	ut	Dwellings with basements		Small commercia   buildings 	1
	unit   	'	Value	   Rating class and   limiting features		   Rating class and   limiting features	Valu
	l						
L63A:							!
Klossner	85 	! -	1.00	Very limited   Ponding	  1.00	Very limited   Ponding	1
	l I		11.00		11.00		11.00
	 	Depth to	11.00	!	11.00	•	11.00
	i	saturated zone		saturated zone		saturated zone	
	i	Content of	1.00	Shrink-swell	0.50	!	1.00
	į	organic matter	į		į	organic matter	į
Lura	   10	  Very limited	 	  Very limited		  Very limited	ŀ
		!	1.00	!	1.00	!	1.00
		Depth to	1.00	! -	1.00	! -	1.00
		saturated zone		saturated zone		saturated zone	
	 	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	11.00
Brownton	   5	  Very limited	i	  Very limited	i	  Very limited	i
	İ	Shrink-swell	1.00	Depth to	1.00	Shrink-swell	1.00
	į	Depth to	1.00	saturated zone	į	Depth to	1.00
		saturated zone		 		saturated zone	
L64A:	 	! 		! 		 	i
Tadkee	50	Very limited		Very limited		Very limited	
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
Tadkee, depressional	   36	  Very limited		  Very limited	 	  Very limited	
	ĺ	Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
Better drained soil	   8	  Somewhat limited		  Very limited		  Somewhat limited	i
		Depth to	0.01	Depth to	1.00	Depth to	0.01
		saturated zone		saturated zone		saturated zone	
Granby	   4	  Very limited		  Very limited	 	  Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to	1.00	Depth to	1.00	Depth to	1.00
	 	saturated zone	l I	saturated zone	 	saturated zone	
Less sandy soil	2	  Very limited		  Very limited	<u> </u>	  Very limited	i
		Depth to	1.00	Depth to	1.00	Depth to	1.00
	 	saturated zone	 	saturated zone	 	saturated zone	
L73A:		 		 		 	i
Blue Earth	80			Very limited		Very limited	
	!	· -	1.00	· -	:	Ponding	1.00
	!	! · · · · · · · · · · · · · · · · · · ·	1.00		1.00	! -	1.00
		saturated zone		saturated zone	!	saturated zone	
	 	Content of organic matter	1.00 	 	 	Content of organic matter	1.00
			ļ		ļ		į
Belleville	10	! -	1	Very limited	:	Very limited	
	 	Depth to	1.00	! -	1.00		1.00
	 	saturated zone	 	saturated zone	 	saturated zone	
Canisteo	10	Very limited	İ	  Very limited	i	  Very limited	i
		Depth to	1.00	! -	1.00	! -	1.00
	l	saturated zone		saturated zone	1	saturated zone	1

Table 10a.--Building Site Development--Continued

	Pct. of map unit	basements	ut	Dwellings with   basements 		   Small commercia   buildings 	1
	   	Rating class and		Rating class and   limiting features	•		
L74A: Estherville	     87	    Not limited	   	    Not limited	   	    Not limited	   
Hawick	10	Not limited	 	  Not limited	 	  Not limited	 
Biscay	:	Depth to saturated zone	1.00	saturated zone	1.00	saturated zone	  1.00    0.50
L75B: Barrington	   85     	Shrink-swell	0.50	  Very limited   Depth to   saturated zone 	1.00	Shrink-swell	  0.50  0.01
Gladek	10     	Shrink-swell		<u> </u>	0.04	Slope	  1.00  0.50
Madelia			1.00	Depth to saturated zone	1.00	  Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50
L76B: Dickinson	80	    Not limited	 	    Not limited		    Not limited	<u> </u>
Litchfield	   13   		1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	    1.00
Darfur			1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	    1.00
Clarion	   2 	  Not limited   	     	  Somewhat limited   Depth to   saturated zone	0.78	•	     
L77A:		 	l i	 		 	
Brownton	75     	Shrink-swell	1.00		1.00	Very limited   Shrink-swell   Depth to   saturated zone	  1.00  1.00
Marna	   15     	Shrink-swell		  Very limited   Depth to   saturated zone 	1.00	  Very limited   Shrink-swell   Depth to   saturated zone	  1.00  1.00
Lura	   10       	Ponding Depth to saturated zone	1.00  1.00 	Depth to saturated zone	1.00  1.00 	Very limited Ponding Depth to saturated zone Shrink-swell	  1.00  1.00    1.00
L78A: Canisteo	   65     		1.00	  Very limited   Depth to   saturated zone 	1.00	  Very limited   Depth to   saturated zone	    1.00 

Table 10a.--Building Site Development--Continued

Map symbol and component name	Pct. of map	basements	ut	Dwellings with basements		Small commercia   buildings 	11
	unit	!		İ		<u> </u>	
	 	Rating class and limiting features	,	Rating class and limiting features	Value	Rating class and limiting features	Value
T 703 -							
L78A: Crippin	   10   		    0.99 	  Very limited   Depth to   saturated zone	    1.00	  Very limited   Depth to   saturated zone	    0.99 
G1						 	
Glencoe	I 10	! -	1 1.00	Very limited   Ponding	1 1.00	Very limited   Ponding	1
	i	!	!	!	!	Depth to	1.00
	i	saturated zone	i	saturated zone	i	saturated zone	i
	į	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Canisteo,		 	l i	 		  -	
depressional	   5	  Very limited	i	  Very limited	i	  Very limited	i
	į	Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Shrink-swell	0.50			Shrink-swell	0.50
Harps	l I 5	  Very limited		  Very limited		  Very limited	1
	İ		,		•	Depth to	1.00
	į	saturated zone	į	saturated zone	ĺ	saturated zone	ĺ
Webster		  Very limited	l i	  Very limited		  Very limited	
Webster	]	! -	1		•	Depth to	1
	i	saturated zone		saturated zone		saturated zone	
	ļ		ļ		ļ		ļ
L79B: Clarion	   65	  Not limited		  Somewhat limited		  Not limited	
CIAIIOII	03	NOC IIMICEG			0.78	NOC IIMICEG	1
	i	İ	İ	saturated zone		 	İ
g3 1 3 - 3		 				 	
Clarion, eroded	45 	NOT limited	l I	Somewhat limited   Depth to	  0.78	Not limited	-
	i		İ	saturated zone			i
			ļ		ļ		ļ
Nicollet	8 	Somewhat limited   Depth to	  0.99	Very limited   Depth to	11.00	Very limited   Depth to	  0.99
		saturated zone	0.55	saturated zone	1	saturated zone	10.55
	į	!	0.50		İ	Shrink-swell	0.50
Webster		  Very limited		  Very limited		  Very limited	
webster	<u>4</u> 	! -	1.00	! -	1.00	! -	1.00
	i	saturated zone		saturated zone		saturated zone	
L80C2: Lester, eroded	   75	  Somewhat limited	 	  Somewhat limited	 	  Very limited	I I
202001, 020000		•	0.50	•	0.50		1.00
	İ	Slope	0.04	Slope	0.04	Shrink-swell	0.50
Townil		Not limit-3		Comprehent 14-44-4		  Comprehent	1
Terril	1 10	Not limited		Somewhat limited   Depth to	  0.78	Somewhat limited   Slope	0.12
		! 		saturated zone		   probe	
	į	İ	į	İ	İ	İ	İ
Hamel	5	Very limited		Very limited		Very limited	[
		Depth to	1.00	! · · · · · · · · · · · · · · · · · · ·	1.00	! -	1.00
	 	saturated zone Shrink-swell	  0.50	saturated zone		saturated zone Shrink-swell	  0.50
	1	1 2	1000	I	1	1 3 511011	, 5.55

Table 10a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	basements	out	Dwellings with basements		Small commercial   buildings 		
	unit   	   Rating class and   limiting features	Value	   Rating class and   limiting features		   Rating class and   limiting features	Value	
L80C2: Reedslake	     5 	    Somewhat limited   Shrink-swell	      0.50	  Somewhat limited   Depth to   saturated zone	      0.78	    Somewhat limited   Shrink-swell	      0.50	
Storden, eroded	   5   	  Somewhat limited   Shrink-swell   Slope	  0.50  0.04	!	    0.50  0.04	! -	  1.00  0.50	
L80D2: Lester, eroded	   75 	  Very limited   Slope   Shrink-swell	  1.00  0.50	· -	    1.00  0.50	! -	    1.00  0.50	
Ridgeton	   10 	  Somewhat limited   Slope	0.63	  Somewhat limited   Slope	    0.63	  Very limited   Slope	1.00	
Storden, eroded	   8   	  Very limited   Slope   Shrink-swell	  1.00  0.50		    1.00  0.50	  Very limited   Slope   Shrink-swell	  1.00  0.50	
Terril	   5   	  Somewhat limited   Depth to   saturated zone	    0.01   	  Very limited   Depth to   saturated zone 	    1.00   	  Somewhat limited   Slope   Depth to   saturated zone	  0.12  0.01	
Hamel	   2   	  Very limited   Depth to   saturated zone   Shrink-swell		  Very limited   Depth to   saturated zone 	:	  Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50	
L81A: Cordova	     85     	  Very limited   Depth to   saturated zone   Shrink-swell	    1.00    0.50	  Very limited   Depth to   saturated zone	      1.00 	  Very limited   Depth to   saturated zone   Shrink-swell	    1.00    0.50	
Le Sueur	   10     	  Somewhat limited   Depth to   saturated zone   Shrink-swell	  0.99    0.50	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone   Shrink-swell	  0.99    0.50	
Rolfe	   5       	   Very limited   Ponding   Depth to   saturated zone   Shrink-swell	  1.00  1.00    1.00	Depth to saturated zone	  1.00  1.00    0.50	Depth to saturated zone	  1.00  1.00    1.00	
L82A: Marna	   85     	  Very limited   Shrink-swell   Depth to   saturated zone	    1.00  1.00	! -	      1.00   	Very limited Shrink-swell Depth to saturated zone	    1.00  1.00	
Barbert	   10       	  Very limited   Ponding   Depth to   saturated zone   Shrink-swell	  1.00  1.00    1.00	Depth to saturated zone	  1.00  1.00    1.00	Depth to saturated zone	  1.00  1.00    1.00	

Table 10a.--Building Site Development--Continued

component name	Pct. of map unit	basements	ut	Dwellings with basements		   Small commercia   buildings 	ıl
	    -	Rating class and	•	   Rating class and   limiting features			Value
L82A: Guckeen	     5   	  Somewhat limited   Depth to   saturated zone	•	  Very limited   Depth to   saturated zone		  Somewhat limited   Depth to   saturated zone	      0.01
L83A: Webster	     65   	! -	1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	    1.00
Glencoe	   15       	Ponding Depth to saturated zone	1.00  1.00 	Depth to saturated zone	1.00  1.00 	   Very limited   Ponding   Depth to   saturated zone   Shrink-swell	  1.00  1.00    0.50
Canisteo	   10   	  Very limited   Depth to   saturated zone	!	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	    1.00
Nicollet	   10     	Depth to saturated zone	  0.99    0.50	saturated zone	1.00	  Very limited   Depth to   saturated zone   Shrink-swell	  0.99    0.50
L84A: Glencoe	   80       	Ponding Depth to saturated zone	1.00  1.00 	Depth to saturated zone	1.00  1.00 	  Very limited   Ponding   Depth to   saturated zone   Shrink-swell	    1.00  1.00    0.50
Very poorly drained muck		Ponding Subsidence Depth to saturated zone	1.00	Subsidence   Depth to   saturated zone	1.00	  Very limited   Ponding   Subsidence   Depth to   saturated zone   Shrink-swell	    1.00  1.00  1.00    0.50
Canisteo	   5   	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	1.00		    1.00
Harps	   5   	Depth to	1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	    1.00 
L85A: Nicollet	 	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	    0.99    0.50
Clarion	   10   	  Not limited   		  Somewhat limited   Depth to   saturated zone	0.78	•	     
Webster			1.00	  Very limited   Depth to   saturated zone 	1.00	  Very limited   Depth to   saturated zone 	    1.00 

Table 10a.--Building Site Development--Continued

component name	Pct. of map	basements	ut	Dwellings with basements		Small commercia buildings	1
	unit	İ		<u> </u>		<u> </u>	
		Rating class and	Value	Rating class and	Value	Rating class and	Value
	Ĺ	limiting features		limiting features		limiting features	<u>i</u>
T 0 C 3 -							
L86A: Madelia	l I an	  Verv limited		  Very limited	 	  Very limited	!
Madelia	J0 				•	Depth to	11.00
	i	saturated zone	:	saturated zone		saturated zone	i
	į	Shrink-swell	0.50	:		Shrink-swell	0.50
Okoboji	   5	  Very limited	l I	  Very limited	l I	  Very limited	
	i	! -	1	:	:	Ponding	1.00
	İ			· -	:	Depth to	1.00
	İ	saturated zone	j	saturated zone	j	saturated zone	į
	ļ	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Spicer	   3	  Very limited	 	  Very limited	 	  Very limited	
	İ			Depth to	1.00	Depth to	1.00
	ĺ	saturated zone	ĺ	saturated zone	ĺ	saturated zone	İ
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Kingston	l I 2	  Somewhat limited		  Very limited		  Very limited	
<b>5</b> • •	i		,	Depth to			0.99
	į	saturated zone		saturated zone		saturated zone	į
L87A:	 	 	 	 	 	 	
Kingston	l   85	  Somewhat limited	i	  Very limited	i	  Very limited	i
_	İ	•		! -	:	Depth to	0.99
	ĺ	saturated zone	İ	saturated zone	İ	saturated zone	İ
Truman	   10	  Not limited	 	  Somewhat limited	 	  Not limited	
	İ	İ	İ	Depth to	0.78	İ	i
	ĺ	İ	İ	saturated zone	İ		İ
Madelia	   5	  Very limited	 	  Very limited	 	  Very limited	
	į	Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	1
		Shrink-swell	0.50			Shrink-swell	0.50
L88A:	 	 		 		 	
Lura	85	Very limited		Very limited		Very limited	1
				· -	:	Ponding	1.00
		! -	!	! -	:	! -	1.00
	 	saturated zone Shrink-swell		saturated zone Shrink-swell	,	saturated zone   Shrink-swell	11.00
	 	BHITHK-SWEII		BILLING-SWELL		SHITHK-SWEIT	
Brownton	10	! -	!	Very limited		Very limited	ļ
			1.00		1.00	!	1.00
	 	Depth to saturated zone	1.00 	saturated zone	 	Depth to saturated zone	1.00
	į _	İ	į	<u> </u>	į		į
Organic soil	5	Very limited	:	Very limited	!	Very limited	
	l I		1.00	!	1.00	!	11.00
	 	!		!	1.00  1.00		1.00
	! 	saturated zone	1	saturated zone	1	saturated zone	1
	İ		0.50	!	1.00	!	0.50
L89A:	 	 		 		 	
Guckeen	   82	  Somewhat limited	 	  Very limited		  Very limited	
		l Dameh ea	0.99	! -	:	Depth to	0.99
		Depth to	10.33	Depth to	11.00	Depth to	10.33

Table 10a.--Building Site Development--Continued

component name	Pct. of map unit	basements	ut	Dwellings with   basements 		Small commercial   buildings 		
	   	'	Value	Rating class and   limiting features	Value	Rating class and   limiting features	Value	
L89A: Marna	     10   	Shrink-swell	      1.00  1.00		      1.00 	  Very limited   Shrink-swell   Depth to   saturated zone	    1.00  1.00	
Clarion clay loam	   8     	  Not limited     	       	  Somewhat limited   Depth to   saturated zone 	    0.78   	  Not limited     	       	
L90A: Le Sueur	   75     	Depth to saturated zone	    0.99    0.50	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone   Shrink-swell	0.99	
Cordova	   13     	!	    1.00    0.50	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50	
Reedslake	   12   		    0.50	  Somewhat limited   Depth to   saturated zone	    0.78 	  Somewhat limited   Shrink-swell 	    0.50	
L91A: Mazaska	     85     	Shrink-swell		! -	      1.00 	  Very limited   Shrink-swell   Depth to   saturated zone	    1.00  1.00	
Lerdal	   10     	Shrink-swell	    1.00  0.90	! -	:	  Very limited   Shrink-swell   Depth to   saturated zone	  1.00  0.90	
Rolfe	   5       	· -		Depth to saturated zone	!	saturated zone	  1.00  1.00    1.00	
L92A:	i	<u> </u>	i	İ	i	İ	i	
Darfur	78     	! -	  1.00 	Very limited   Depth to   saturated zone 		  Very limited   Depth to   saturated zone 	1.00	
Fieldon	   10   	! -	  1.00 	  Very limited   Depth to   saturated zone	•	  Very limited   Depth to   saturated zone	1.00	
Litchfield	5   5   	! -	    1.00 	  Very limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone	1.00	
Webster	   5     	  Very limited   Depth to   saturated zone 	    1.00 	  Very limited   Depth to   saturated zone	•	  Very limited   Depth to   saturated zone 	1.00	

Table 10a.--Building Site Development--Continued

Map symbol and component name	Pct. of map		ut	Dwellings with   basements		Small commercia   buildings	1
	map  unit	 		! 		! 	
	   	Rating class and limiting features	Value 	Rating class and limiting features		Rating class and   limiting features	Value
L92A:							
Dassel	   2	  Very limited	i	  Very limited	i	  Very limited	
	į	Depth to	1.00		1.00		1.00
	ļ	saturated zone		saturated zone		saturated zone	
	 	Ponding	1.00	Ponding	1.00	Ponding	1.00
L93A:	! 			! 		! 	
Muskego	82	Very limited		Very limited		Very limited	İ
		Ponding	1.00	!	1.00		1.00
		Subsidence	1.00	!	1.00	Subsidence	1.00
	 	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	l I	Content of	1.00	Shrink-swell	  0.50	Content of	11.00
	 	organic matter	1	billing-bwell	1	organic matter	1
	i	Shrink-swell	0.50		i	Shrink-swell	0.50
	ĺ		Ì	İ	Ì	İ	İ
Blue Earth	10		:	Very limited	:	Very limited	
			1.00	!	1.00	!	1.00
	l I	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	 	Content of	1	Saturated Zone		Content of	11.00
	i	organic matter			i	organic matter	
	ĺ		Ì	İ	Ì	İ	İ
Mineral soil,	_		ļ		ļ		ļ
drained	5	Very limited   Ponding	1.00	Very limited   Ponding	1.00	Very limited   Ponding	11.00
	l I	Depth to	1.00	· -	11.00		1.00
	 	saturated zone	1	saturated zone	1	saturated zone	1
	i	Shrink-swell	0.50		i	Shrink-swell	0.50
			ļ		ļ		ļ
Belleville	3	Very limited	:	Very limited	:	Very limited	
	 	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	İ		i		i		i
L94A:	İ	İ	İ	İ	İ	j	İ
Lowlein	75			Very limited	!	Somewhat limited	
		Depth to	0.01	! -	1.00	Depth to	0.01
	l I	saturated zone		saturated zone		saturated zone	
Linder	l l 15	  Verv limited	i	  Very limited	i	  Very limited	ł
	İ	Depth to	1.00		1.00	Depth to	1.00
	İ	saturated zone	İ	saturated zone	İ	saturated zone	İ
Dickinson	   8	  Not limited	l I	  Not limited	l I	  Not limited	
DIGHTIBOH	İ		i		i		i
Darfur	2	Very limited	İ	Very limited	j	Very limited	İ
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone	ļ	saturated zone	ļ	saturated zone	
L95E:	 	 	l I	 	l I	 	 
Hawick	I I 80	  Verv limited		  Very limited		  Very limited	1
		Slope	1.00	! -	1.00	! -	1.00
	ĺ		İ	İ	İ	İ	İ
Estherville	10			Very limited		Very limited	1
		Slope	1.00	Slope	1.00	Slope	1.00
Tomal1	   10	Not limited	 	  Somewhat limited	 	  Not limited	1
TOMATI	, ±0		 	!	  0.61		
	i		İ	saturated zone		İ	i

Table 10a.--Building Site Development--Continued

component name	Pct. of map unit	basements	ut	   Dwellings with   basements   		Small commercia   buildings   	1
	İ 	'	•	Rating class and   limiting features		Rating class and limiting features	Value
L96B: Estherville	     55 	    Not limited 	     	    Not limited 	     	    Not limited 	     
Hawick	35	  Not limited	į	  Not limited	į	Not limited	į
Tomall	   8   	  Not limited   	     	  Somewhat limited   Depth to   saturated zone	0.61	  Not limited   	     
Biscay		  Very limited   Depth to   saturated zone   Shrink-swell	1.00	Depth to saturated zone	1.00	  Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50
L97C:	į	İ	į	İ	į	į	į
Hawick	60   	•		•		Very limited   Slope 	  1.00 
Estherville	30 		•	Somewhat limited   Slope		Very limited   Slope	1.00
Tomall	   10   	  Not limited   	     	  Somewhat limited   Depth to   saturated zone	    0.61 	  Not limited   	     
L98A: Crippin	     50 		0.99	•	1.00	  Very limited   Depth to   saturated zone	    0.99
Nicollet	:	Depth to saturated zone	0.99	saturated zone	1.00	saturated zone	  0.99    0.50
Canisteo	   5   		1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	    1.00 
Clarion	   5   	  Not limited     		  Somewhat limited   Depth to   saturated zone	    0.78 	  Not limited     	     
L99B: Clarion	   62   	  Not limited 	       	  Somewhat limited   Depth to   saturated zone	      0.78	  Not limited 	     
Swanlake	   25   	  Not limited   	     	  Somewhat limited   Depth to   saturated zone	    0.78 	  Somewhat limited   Slope 	0.12
Nicollet	   10     	Depth to saturated zone	0.99	saturated zone		  Very limited   Depth to   saturated zone   Shrink-swell	  0.99    0.50
Webster	   3   		    1.00   	  Very limited   Depth to   saturated zone 	1.00	  Very limited   Depth to   saturated zone 	    1.00 

Table 10a.--Building Site Development--Continued

Map symbol and component name	Pct. of map	basements	ut	Dwellings with basements		Small commercia   buildings 	1
	unit   	'	•	   Rating class and   limiting features		   Rating class and   limiting features	Value
L100B: Clarion	     45 	  Not limited   	       	  Somewhat limited   Depth to   saturated zone	      0.78	  Not limited   	
Estherville	35	  Not limited	 	  Not limited		  Not limited	!
Lowlein	   5   		•	  Very limited   Depth to   saturated zone	1.00	  Somewhat limited   Depth to   saturated zone	
Nicollet	   5   	saturated zone	•	saturated zone		  Very limited   Depth to   saturated zone   Shrink-swell	  0.99    0.50
Swanlake	   5 	  Not limited   	     	  Somewhat limited   Depth to   saturated zone	0.78	  Not limited   	     
Webster	   5   	! -	!	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone	
L101C2: Omsrud, eroded	   40 		      0.04	    Somewhat limited   Slope		    Very limited   Slope	1.00
Hawick	30	!	:	  Somewhat limited   Slope		  Very limited   Slope	1.00
Storden, eroded	20	•	0.04	  Somewhat limited   Slope		  Very limited   Slope	1.00
Delft	   5   	saturated zone	1.00	saturated zone	1.00	  Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50
Terril	   5   	  Not limited     	       	  Somewhat limited   Depth to   saturated zone	    0.78 	  Not limited     	     
L101D2: Omsrud, eroded	   40 	! -	      1.00	  Very limited   Slope	    1.00	  Very limited   Slope	1.00
Hawick	   25 	  Very limited   Slope	    1.00	  Very limited   Slope	1   1.00	  Very limited   Slope	1.00
Storden, eroded	20		    1.00	  Very limited   Slope	1   1.00	  Very limited   Slope	1.00
Ridgeton	   6 	  Somewhat limited   Slope	    0.63	  Somewhat limited   Slope	    0.63	  Very limited   Slope	1.00
Delft	   5     	  Very limited   Depth to   saturated zone   Shrink-swell 	•	  Very limited   Depth to   saturated zone   Shrink-swell 		  Very limited   Depth to   saturated zone   Shrink-swell 	  1.00    0.50

Table 10a.--Building Site Development--Continued

component name	Pct. of map unit	basements	ut	Dwellings with   basements 		Small commercial buildings	
	   		•	Rating class and limiting features	•	Rating class and limiting features	Value
L101D2: Terril	     4   	•		    Very limited   Depth to   saturated zone	1.00	! -	      0.12  0.01
L102C2: Omsrud, eroded	     45 	•		    Somewhat limited   Slope		    Very limited   Slope	1
Storden, eroded	   25 	•	•	•	•	  Very limited   Slope	1.00
Omsrud	•	•		  Somewhat limited   Slope	•	  Very limited   Slope	    1.00
Terril	   10   	  Not limited   	!		    0.78 	  Not limited   	
Delft	:	Depth to saturated zone	1.00	Depth to saturated zone	1.00	  Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50
L102D2: Omsrud, eroded	:	! -	:	    Very limited   Slope	•	    Very limited   Slope	1.00
Storden, eroded	:	! -	:	•	•	  Very limited   Slope	    1.00
Omsrud	   15 	! -	:		•	  Very limited   Slope	    1.00
Ridgeton	   8 	•	•	•		  Very limited   Slope	    1.00
Delft	   6   	saturated zone		saturated zone	1.00 		  1.00    0.50
Terril	   6   	•	0.01	  Very limited   Depth to   saturated zone 	1.00		  0.12  0.01
L103A: Fieldon	     50 		1.00		1.00	    Very limited   Depth to   saturated zone	      1.00
Canisteo	   35   		1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	    1.00
Darfur	   10     	    Very limited	    1.00	  Very limited	      1.00	  Very limited   Depth to   saturated zone	    1.00 

Table 10a.--Building Site Development--Continued

component name	Pct.  Dwellings without   of   basements   map			Dwellings with basements		Small commercia   buildings 	.1
	unit   	'	Value	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value
L103A: Glencoe	   5     	Depth to saturated zone	    1.00  1.00    0.50	Depth to saturated zone	    1.00  1.00    0.50	Depth to saturated zone	    1.00  1.00    0.50
L105C2:	 	 	l I	 	 	 	
Lester, eroded	   45   	Shrink-swell	  0.50  0.04	!	    0.50  0.04	! -	  1.00  0.50
Hawick	   35 	!	0.04	  Somewhat limited   Slope	0.04	  Very limited   Slope	1.00
Terril	   10   	  Not limited   	     	  Somewhat limited   Depth to   saturated zone	    0.78 	  Not limited   	     
Hamel	   5     	saturated zone	 	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50
Storden, eroded	   5 	!	    0.04	  Somewhat limited   Slope	    0.04	  Very limited   Slope	1.00
L105D2:	   	 		 		 	
Lester, eroded	45   	Slope	  1.00  0.50	· -	  1.00  0.50	Very limited   Slope   Shrink-swell	  1.00  0.50
Hawick	   35 	! -	    1.00	  Very limited   Slope	    1.00	  Very limited   Slope	1.00
Ridgeton	   8 	  Somewhat limited   Slope 	    0.63	  Somewhat limited   Slope 	    0.63	  Very limited   Slope 	1.00
Hamel	   5   	saturated zone	  1.00    0.50	saturated zone	:	   Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50
Storden, eroded	   5 	  Very limited   Slope	    1.00	  Very limited   Slope	    1.00	  Very limited   Slope	    1.00
Terril	   2     	  Somewhat limited   Depth to   saturated zone 	    0.01   	Very limited Depth to saturated zone	    1.00   	  Somewhat limited   Slope   Depth to   saturated zone	  0.12  0.01 
L106C2: Lester, eroded	   62 	Shrink-swell	    0.50  0.04	1	    0.50  0.04	  Very limited   Slope   Shrink-swell	    1.00  0.50
Storden, eroded	   20 	•	    0.04	  Somewhat limited   Slope 	    0.04	  Very limited   Slope 	    1.00

Table 10a.--Building Site Development--Continued

component name	Pct. of map	basements	ut	Dwellings with basements		Small commercia   buildings	al
	unit 	'	Value	Rating class and	Value	Rating class and	Value
		limiting features	•	limiting features	•	limiting features	
T 10 C C 2 .							
L106C2: Terril	   10 	  Not limited   	     	  Somewhat limited   Depth to   saturated zone	    0.78 	  Not limited   	     
Hamel							
name1		Depth to saturated zone	  1.00    0.50	saturated zone	  1.00   	Very limited   Depth to   saturated zone   Shrink-swell	1.00
Reedslake	3	  Somewhat limited   Shrink-swell 	!	  Somewhat limited   Depth to   saturated zone	!	  Somewhat limited   Shrink-swell	    0.50
L106D2:	İ	 	 	 	 	 	
Lester, eroded	62	Slope	  1.00  0.50		•	  Very limited   Slope   Shrink-swell	  1.00  0.50
	İ	İ	į		į		į
Storden, eroded	20	! -	1.00		:	Very limited   Slope	1.00
Ridgeton	10	:	0.63	  Somewhat limited   Slope	:	  Very limited   Slope	1.00
Terril	5	  Somewhat limited		  Very limited		  Somewhat limited	
	 	Depth to saturated zone	0.01	Depth to saturated zone	1.00   	Slope   Depth to   saturated zone	0.12
Hamel	3	saturated zone	:	saturated zone	:	   Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50
L107A:			ĺ		İ		
Canisteo	50   	! -	:	Very limited   Depth to   saturated zone	:	Very limited   Depth to   saturated zone	1.00
Glencoe	35	  Very limited   Ponding   Depth to	  1.00  1.00	•	    1.00  1.00	•	  1.00  1.00
		saturated zone Shrink-swell	0.50	saturated zone Shrink-swell	  0.50	saturated zone Shrink-swell	0.50
Harps	10	  Very limited   Depth to   saturated zone	    1.00	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00
Canisteo,	 	 	 	 	 	[ [	1
depressional	3	Very limited   Ponding   Depth to	  1.00  1.00		  1.00  1.00	_	  1.00  1.00
	 	saturated zone Shrink-swell	0.50	saturated zone		saturated zone Shrink-swell	0.50
Crippin	2	  Somewhat limited   Depth to   saturated zone	    0.99	  Very limited   Depth to   saturated zone	    1.00	  Very limited   Depth to   saturated zone	    0.99

Table 10a.--Building Site Development--Continued

component name	  Pct.   of  map	basements	ut	   Dwellings with   basements		   Small commercia   buildings 	1
	unit   			   Rating class and   limiting features			•
L108A:		 				 	
Cordova	l   65	  Very limited	i	  Very limited	i	  Very limited	i
	į	Depth to	1.00		1.00	Depth to	1.00
	ĺ	saturated zone	Ì	saturated zone	ĺ	saturated zone	Ì
	ļ	Shrink-swell	0.50	!	İ	Shrink-swell	0.50
Rolfe			ļ	  Very limited			
ROIIE	30 		  1.00		1	Very limited   Ponding	1
	 	!	11.00	!	11.00	!	11.00
	i	saturated zone		saturated zone		saturated zone	
	İ	!	1.00	!	0.50	!	1.00
	ĺ	İ	Ì	İ	ĺ	İ	İ
Le Sueur	5	Somewhat limited		Very limited	•	Very limited	
		! -	0.99	! -	1.00	! -	0.99
	 	saturated zone Shrink-swell	  0.50	saturated zone		saturated zone Shrink-swell	  0.50
	l I	Shrink-swell	0.50 	 	 	Shrink-swell	0.50
L109A:	i	! 	i	! 	i	! 	1
Marna	65	Very limited	İ	Very limited	į	Very limited	İ
		Shrink-swell	1.00	Depth to	1.00	Shrink-swell	1.00
		Depth to	1.00	saturated zone		Depth to	1.00
		saturated zone	ļ			saturated zone	
Barbert	   30	  Verv limited	l I	  Very limited	l I	  Very limited	I
Barbere	30	! - T	1.00	! =	:	Ponding	1.00
	i	!	1.00	!	1.00		1.00
	į	saturated zone	İ	saturated zone	į	saturated zone	İ
	!	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Guckeen		  Somewhat limited	ļ	  Very limited		  Very limited	
Guckeen	]		1  0.99			Depth to	1  0.99
	! 	saturated zone		saturated zone		saturated zone	
	į	İ	i	j	i	İ	i
L110E:		ļ	ļ	[		[	1
Lester	50			Very limited		Very limited	
	 		1.00  0.50		1.00	Slope   Shrink-swell	1.00  0.50
	 	SHITHK-SWEII	0.50	 	i i	SHITHK-SWEII	10.50
Ridgeton	30	  Very limited	i	  Very limited	i	  Very limited	i
		Slope	1.00	Slope	1.00	Slope	1.00
			ļ		ļ		
Cokato	1 10			Very limited   Slope	1	Very limited	1.00
	l I		1.00  0.50	-	1.00	Slope   Shrink-swell	0.50
	i			! 	i		
Belview	6	Very limited	İ	Very limited	į	Very limited	İ
		Slope	1.00	Slope	1.00	Slope	1.00
Hamel			ļ	  Very limited			
namer	<u>4</u> 	Very limited   Depth to	1 1.00		1	Very limited   Depth to	1
	 	saturated zone	1	saturated zone	1	saturated zone	1
	i	•	0.50		i	Shrink-swell	0.50
	ļ	!	ļ	ļ	[	!	!
Terril	2	Not limited		Somewhat limited	!	Somewhat limited	
			!	! -	0.78	Slope	0.12
	l I	 	 	saturated zone	l I	 	I
L110F:		 		 		 	i
Lester	55	  Very limited	İ	  Very limited	į	  Very limited	i
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	ļ	ļ	Shrink-swell	0.50
	I	I		I	I	l	I

Table 10a.--Building Site Development--Continued

Map symbol and component name	Pct.  Dwellings without     of   basements    map      unit			Dwellings with   basements 		   Small commercia   buildings 	1
	   			Rating class and   limiting features			
L110F: Ridgeton	     30 		      1.00	    Very limited   Slope		    Very limited   Slope 	      1.00
Cokato	   8   	Slope	  1.00  0.50			  Very limited   Slope   Shrink-swell	  1.00  0.50
Belview	:		1.00	  Very limited   Slope		  Very limited   Slope	1.00
Terril	   2   	  Not limited   	     	Somewhat limited   Depth to   saturated zone		  Somewhat limited   Slope 	0.12
Hamel	   1     	saturated zone		saturated zone		  Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50
L111A: Nicollet	   85     	Depth to saturated zone	0.99	saturated zone		saturated zone	  0.99    0.50
Clarion	   10   	  Not limited   	     	  Somewhat limited   Depth to   saturated zone	    0.78 	  Not limited   	     
Webster	   5     	Depth to saturated zone	1.00	  Very limited   Depth to   saturated zone	:	  Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50
L112A: Webster	   85     	Depth to saturated zone	      1.00    0.50	saturated zone	:	  Very limited   Depth to   saturated zone   Shrink-swell	1.00
Glencoe	   10       	Ponding Depth to saturated zone	1.00  1.00	Ponding   Depth to   saturated zone	1.00  1.00 	Depth to saturated zone	  1.00  1.00    0.50
Nicollet	   5     	saturated zone		saturated zone		   Very limited   Depth to   saturated zone   Shrink-swell	  0.99    0.50
L113B:	i		i	i	i	İ	i
Reedslake	75     	1	  0.50 	Somewhat limited   Depth to   saturated zone		Somewhat limited   Shrink-swell 	  0.50 
Le Sueur	10       	Depth to saturated zone	  0.99    0.50	Very limited   Depth to   saturated zone 		Very limited   Depth to   saturated zone   Shrink-swell	  0.99    0.50

Table 10a.--Building Site Development--Continued

component name	Pct. of map	basements	ut	Dwellings with basements		Small commercial   buildings 	
	unit   		•	   Rating class and   limiting features	•	   Rating class and   limiting features	Value
L113B: Reedslake, eroded	     10   	!	      0.50	  Somewhat limited   Depth to   saturated zone	      0.78 	    Somewhat limited   Shrink-swell   Slope	    0.50  0.12
Cordova	   5     	saturated zone	 	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50
L114A: Hanlon, rarely flooded	     85     	Flooding	      1.00  0.01 		      1.00  1.00		    1.00  0.01
Coland, occasionally flooded		Flooding Depth to saturated zone	  1.00  1.00    0.50	Depth to saturated zone	  1.00  1.00    0.50	Depth to saturated zone	  1.00  1.00    0.50
Minneopa, rarely flooded	   5   	!	    1.00  0.01	!	    1.00  1.00	!	  1.00  0.01
L115A: Brownton	     55   	Shrink-swell	      1.00  1.00	! -	      1.00 	  Very limited   Shrink-swell   Depth to   saturated zone	    1.00  1.00
Lura	   35       	Ponding Depth to saturated zone	  1.00  1.00   	Depth to saturated zone	  1.00  1.00    1.00	Depth to saturated zone	  1.00  1.00    1.00
Marna	   10     	Shrink-swell	•	  Very limited   Depth to   saturated zone	1.00	  Very limited   Shrink-swell   Depth to   saturated zone	  1.00  1.00
L116A: Le Sueur	     45   	Depth to saturated zone	0.99	saturated zone	1.00	  Very limited   Depth to   saturated zone   Shrink-swell	0.99
Lerdal	   40       	Shrink-swell	1.00  0.90	! -	:	  Very limited   Shrink-swell   Depth to   saturated zone	  1.00  0.90 

Table 10a.--Building Site Development--Continued

component name	Pct. of map unit	basements	Dwellings without   basements		Dwellings with basements		al
	   	'	Value	Rating class and limiting features		Rating class and limiting features	Value
L116A: Mazaska	     10			    Very limited		    Very limited	
	   	Shrink-swell Depth to saturated zone	1.00  1.00 	! -	1.00	Shrink-swell Depth to saturated zone	1.00  1.00 
Kilkenny	   5     	  Somewhat limited   Depth to   saturated zone   Shrink-swell	  0.88    0.50	  Very limited   Depth to   saturated zone	  1.00 	  Somewhat limited   Depth to   saturated zone   Shrink-swell	0.88
L117C2:	l I	 		 	i i	 	
Omsrud, eroded	   65 	  Somewhat limited   Slope	0.04	  Somewhat limited   Slope	0.04	  Very limited   Slope	1.00
Omsrud	   15 	  Somewhat limited   Slope	0.04	  Somewhat limited   Slope	0.04	  Very limited   Slope	1.00
Terril	   10   	  Not limited   	     	  Somewhat limited   Depth to   saturated zone	    0.78 	  Somewhat limited   Slope 	  0.50 
Delft	   5     	  Very limited   Depth to   saturated zone   Shrink-swell	    1.00    0.50	  Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50	saturated zone	  1.00    0.50
Storden, eroded	   5 	  Somewhat limited   Slope	    0.04	  Somewhat limited   Slope	    0.04	  Very limited   Slope	    1.00
L118A: Rushriver,	   	   	   	   	   	 	   
frequently flooded	85	! -	:	Very limited	:	Very limited	1
			1.00		11.00	!	11.00
	   	Depth to   saturated zone 	1.00   	Depth to saturated zone	1.00   	Depth to   saturated zone 	1.00   
Houghton, frequently flooded		  Very limited	į	  Very limited	į	  Very limited	į
1100ded	]	Subsidence	1		1		11.00
	i	Flooding	1.00		1.00		1.00
	į	Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
	   	Content of   organic matter 	1.00   	Content of organic matter	1.00   	Content of organic matter	1.00   
Klossner, frequently flooded		    Very limited	į	 	į	    Very limited	į
1100ded	l þ	Very limited   Subsidence	  1.00	Very limited   Subsidence	1.00	Very limited   Subsidence	1 1.00
	! 	Subsidence   Flooding	1.00	Flooding	11.00	Subsidence   Flooding	1.00
	i	Depth to	1.00		1.00	Depth to	11.00
	 	saturated zone Content of	1.00	saturated zone Shrink-swell	0.50	saturated zone Content of	1.00
		Content or   organic matter   Shrink-swell	    0.50	 		organic matter Shrink-swell	0.50

Table 10a.--Building Site Development--Continued

component name	Pct. of map	basements	ut	Dwellings with basements		Small commercia buildings	11
	unit   	'	•	   Rating class and   limiting features		Rating class and limiting features	Value
L118A: Medo, frequently	   	   	   	   	   	   	   
flooded	5             	!	  1.00  1.00  1.00    1.00	Flooding	  1.00  1.00  1.00 	!	  1.00  1.00  1.00    1.00
L119B:	i	! 	i	! 	i	! 	i
Angus	   80   	  Somewhat limited   Shrink-swell 	0.50	Somewhat limited   Depth to   saturated zone	  0.78 	   Somewhat limited   Shrink-swell 	0.50
Angus, eroded	   10     	  Somewhat limited   Shrink-swell 	    0.50 	  Somewhat limited   Depth to   saturated zone   Shrink-swell	  0.78    0.50	  Somewhat limited   Shrink-swell 	  0.50 
Cordova	   5   	  Very limited   Depth to   saturated zone   Shrink-swell	    1.00    0.50	  Very limited   Depth to   saturated zone 	    1.00 	  Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50
Le Sueur	   5     	  Somewhat limited   Depth to   saturated zone   Shrink-swell	    0.99    0.50	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone   Shrink-swell	0.99
L120A: Good Thunder	     80     	! -	    1.00  0.01	! -	      1.00 	  Very limited   Shrink-swell   Depth to   saturated zone	    1.00  0.01
Ocheyedan	   10   	  Not limited   	     	  Somewhat limited   Depth to   saturated zone	    0.78 	  Not limited   	     
Minnetonka	   10       	Shrink-swell		•	    1.00    0.50	Depth to	  1.00  1.00
L121B: Clarion	   80 	  Somewhat limited   Shrink-swell	•	  Somewhat limited   Depth to   saturated zone		  Somewhat limited   Shrink-swell	    0.50
Guckeen	   15   	  Somewhat limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone		  Very limited   Depth to   saturated zone	    0.99 
Marna	   5     	!	  1.00  1.00 	! -	    1.00   	  Very limited   Shrink-swell   Depth to   saturated zone	  1.00  1.00 

Table 10a.--Building Site Development--Continued

component name	Pct. of	basements	ut	Dwellings with basements		Small commercia   buildings	1
	map	!					
	unit   	Rating class and		Rating class and limiting features			Value
			1		1		i
L122B: Reedslake	   55 	!	    0.50	  Somewhat limited   Depth to   saturated zone		  Somewhat limited   Shrink-swell 	    0.50
Estherville	   25	  Not limited	 	  Not limited	 	  Not limited	
T. a. Guerra						  Very limited	!
Le Sueur	   	Depth to saturated zone	  0.99    0.50	Very limited   Depth to   saturated zone 	  1.00   	! -	  0.99    0.50
							ļ
Cordova	5   		  1.00 	Very limited   Depth to   saturated zone	  1.00 	Very limited   Depth to   saturated zone	11.00
	İ	!	0.50		İ	Shrink-swell	0.50
Lowlein	   5   	  Somewhat limited   Depth to   saturated zone	    0.01 	  Very limited   Depth to   saturated zone	!	  Somewhat limited   Depth to   saturated zone	    0.01 
L123A:	 		 	 	 	 	
Belleville	85   	<u> </u>	  1.00 	   Very limited   Depth to   saturated zone	  1.00 	   Very limited   Depth to   saturated zone	1.00
Granby	   15     	Ponding	  1.00  1.00	!	  1.00  1.00		  1.00  1.00
	į	İ	İ	İ	İ	İ	į
L124A:		1					!
Glencoe mucky clay	l I 85	  Verv limited	 	  Very limited	 	  Very limited	1
	į		1.00		1.00	!	1.00
	ļ	<u> </u>	1.00	! -	1.00	! -	1.00
	 	saturated zone Shrink-swell	  0.50	saturated zone Shrink-swell	  0.50	saturated zone Shrink-swell	  0.50
Canisteo	   10	  Very limited	 	  Very limited	 	  Very limited	
	i I	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Glencoe clay loam	   5 	  Very limited   Ponding	    1.00	  Very limited   Ponding	    1.00	  Very limited   Ponding	    1.00
	į		1.00		1.00		1.00
	 	saturated zone Shrink-swell	  0.50	saturated zone Shrink-swell	  0.50	saturated zone Shrink-swell	  0.50
L125A: Hanlon, rarely flooded	       60	      Very limited	     	        Very limited	     	        Very limited	     
	į		1.00		1.00		1.00
	 	Depth to saturated zone	0.01	Depth to saturated zone	1.00	Depth to saturated zone	0.01

Table 10a.--Building Site Development--Continued

component name	Pct. of map	basements	ut	Dwellings with basements		Small commercia buildings	.1
	unit   	'	Value	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value
L125A: Coland, occasionally flooded	:	    Very limited   Flooding   Depth to   saturated zone   Shrink-swell	      1.00  1.00    0.50	    Very limited   Flooding   Depth to   saturated zone   Shrink-swell	      1.00  1.00    0.50	    Very limited   Flooding   Depth to   saturated zone   Shrink-swell	      1.00  1.00      0.50
Minneopa, rarely flooded	     15     	Flooding	    1.00  0.01	    Very limited   Flooding   Depth to   saturated zone	    1.00  1.00	  Very limited   Flooding   Depth to   saturated zone	    1.00  0.01
L126A: Coland, occasionally flooded		Flooding	      1.00  1.00    0.50	!	      1.00  1.00    0.50	    Very limited   Flooding   Depth to   saturated zone   Shrink-swell	      1.00  1.00    0.50
Minneopa, occasionally flooded	       10   	! -	      1.00  0.01	!	      1.00  1.00	Very limited Flooding Depth to saturated zone	      1.00  0.01
Havelock, occasionally flooded	     5     	!	      1.00  1.00  1.00	  -  Very limited   Flooding   Depth to   saturated zone	        1.00  1.00	  -  Very limited   Flooding   Shrink-swell   Depth to   saturated zone	      1.00  1.00  1.00
Spillville, occasionally flooded	     5     	Very limited Flooding Depth to saturated zone Shrink-swell	      1.00  0.99    0.50	Very limited Flooding Depth to saturated zone Shrink-swell	      1.00  1.00    0.50	Very limited Flooding Depth to saturated zone Shrink-swell	      1.00  0.99    0.50
L127A: Coland, frequently flooded	     80       	Flooding	      1.00  1.00    0.50	saturated zone	      1.00  1.00    0.50	Very limited Flooding Depth to saturated zone Shrink-swell	      1.00  1.00    0.50
Minneopa, occasionally flooded	       10     	Flooding	        1.00  0.01	  -  Very limited   Flooding   Depth to   saturated zone	        1.00  1.00	  -  Very limited   Flooding   Depth to   saturated zone	      1.00  0.01

Table 10a.--Building Site Development--Continued

component name	Pct. Of map unit	basements	   Dwellings with   basements   		Small commercial   buildings 		
	   	'		Rating class and limiting features		Rating class and   limiting features	
L127A: Havelock, frequently flooded	:	  Very limited   Flooding   Shrink-swell   Depth to   saturated zone	!	Depth to	1.00	  Very limited   Flooding   Shrink-swell   Depth to   saturated zone	      1.00  1.00  1.00
Spillville, occasionally flooded	       5     	Depth to saturated zone	:	Depth to saturated zone	1.00  1.00 	 	      1.00  0.99    0.50
L128A: Mazaska	     60   	! -	      1.00  1.00		      1.00 	  Very limited   Shrink-swell   Depth to   saturated zone	    1.00  1.00
Rolfe	   30     	Ponding Depth to saturated zone	  1.00  1.00    1.00	Depth to saturated zone		saturated zone	  1.00  1.00    1.00
Lerdal	   10       		    1.00  0.90 			  Very limited   Shrink-swell   Depth to   saturated zone	  1.00  0.90
L129B: Terril	   90 	  Not limited   	     	  Somewhat limited   Depth to   saturated zone	    0.78 	  Not limited   	     
Delft	   5     	Depth to saturated zone	:	   Very limited   Depth to   saturated zone   Shrink-swell	1.00	   Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50
Hamel	   5     	  Very limited   Depth to   saturated zone   Shrink-swell	    1.00    0.50	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone   Shrink-swell	  1.00    0.50
L130A: Okoboji mucky silty clay loam	       75       	 	      1.00  1.00    1.00	Depth to saturated zone	      1.00  1.00    1.00	Depth to saturated zone	    1.00  1.00    1.00
Okoboji silty clay loam	   15         	   Very limited   Ponding   Depth to   saturated zone   Shrink-swell	  1.00  1.00    1.00	  Very limited   Ponding   Depth to   saturated zone   Shrink-swell	  1.00  1.00    1.00		  1.00  1.00    1.00

Table 10a.--Building Site Development--Continued

	!			!			
	Pct.		ut	Dwellings with		Small commercia	.1
component name	of	basements		basements		buildings	
	map	<u> </u>		!			
	unit	l					
		Rating class and	Value	Rating class and	Value	Rating class and	Value
		limiting features		limiting features		limiting features	
		1		l			
L130A:		1		l			
Brownton	5	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to	1.00	Shrink-swell	1.00
		Depth to	1.00	saturated zone		Depth to	1.00
		saturated zone		I		saturated zone	
		1		I			
Spicer	5	Very limited		Very limited		Very limited	
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				I			
M-W:		1		I			
Water, miscellaneous	100	Not rated		Not rated		Not rated	
				I			
U3B:				I			
Udorthents (cut and				I			
fill land)	100	Not rated	I	Not rated		Not rated	
	İ	Ì	İ	İ	İ		İ
W:					l		
Water	100	Not rated		Not rated	l	Not rated	

## Table 10b.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

component name	Pct.	streets	d	Shallow excavati 	ons	Lawns and landsca	ping
	map  unit	!		 		 	
		Rating class and		Rating class and limiting features			
			ļ		ļ		
GP: Pits, gravel	   80 	  Not rated 	   	  Not rated 	   	  Not rated 	   
Udipsamments	20	Not rated	į	Not rated	į	Not rated	į
L5A:		l I		 		 	!
Delft, overwash	   50   	Frost action Depth to	1.00  0.75	saturated zone	1.00	Somewhat limited   Depth to   saturated zone	0.75
		saturated zone Shrink-swell	  0.50	Cutbanks cave	0.10 	 	
Delft	   40	  Very limited	 	  Very limited	 	  Very limited	
	!		:	:		Depth to	1.00
	   	saturated zone	1.00    0.50	Cutbanks cave	  0.10 	saturated zone	   
Glencoe	   5	  Very limited	 	  Very limited	 	  Very limited	
	ļ		:	Ponding	:	Ponding	1.00
		Depth to saturated zone		! -	:	! -	1.00
	 			!	0.10		i i
	i		1.00				i
	į	Shrink-swell	0.50	İ	į	İ	ĺ
Terril	   5	  Somewhat limited	 	  Very limited	 	  Not limited	 
	i	•		Depth to	1.00	İ	į
	ļ		ļ	saturated zone	,		ļ
		 	l I	Cutbanks cave	0.10	 	
L13A:	i		i	 	i		i
Klossner, drained	80	• -		•		Very limited	İ
		!	:	Depth to saturated zone		Content of	1.00
		!	1.00	•		organic matter Depth to	1 1.00
	i	saturated zone	:			saturated zone	
	ļ	Ponding	1.00				1.00
		 		Cutbanks cave	0.10	  -	
Mineral soil,	i	! 	i	! 	i	 	i
drained	15	Very limited	İ	Very limited	İ	Very limited	į
	!	Frost action	1.00	•	1.00	:	1.00
		Depth to saturated zone	1.00	saturated zone Ponding	  1.00	saturated zone Ponding	1.00
	i	Low strength	1.00	Cutbanks cave	0.10	ronarng	
	į	Ponding	1.00	İ	İ	İ	į
		Shrink-swell	0.50				
Houghton, drained	   5	  Very limited	 	  Very limited	 	  Very limited	
	ļ.	Subsidence	1.00	Content of	1.00	!	1.00
		Frost action	1.00	organic matter	11 00	organic matter	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	!	1.00	Ponding	1.00

Table 10b.--Building Site Development--Continued

component name	Pct. of map	streets	d	Shallow excavati	ons	Lawns and landsca	ping
	unit   			   Rating class and   limiting features	•	   Rating class and   limiting features	Value
		IIMICING TEACUTES	<u> </u>	IIMICING LEACULES	l	IIMICING TEACUTES	1
L14A:	i	<u> </u>	i		i		i
Houghton, drained	80	Very limited		Very limited		Very limited	
		Subsidence	1.00	!	1.00	!	1.00
		Frost action	1.00			organic matter	
		Depth to saturated zone	1.00	<u>.                                      </u>	1.00	Depth to saturated zone	1.00
	l I	Saturated Zone   Ponding	1	saturated zone	1	!	1 1.00
	! 	Foliating	1	Cutbanks cave	0.10	ronarng 	1
	İ		i		i		i
Klossner, drained	10	Very limited		Very limited		Very limited	
		Subsidence	1.00	<u>.                                      </u>	1.00	!	1.00
	ļ	Frost action	1.00	!		organic matter	
	 	Depth to saturated zone	1.00	Ponding Content of	1.00  1.00	Depth to saturated zone	1.00
	 	saturated zone   Ponding	1 1.00	!	1	saturated zone   Ponding	1 1.00
	i I	Ponding	11.00	!	0.10		
	İ						i
Mineral soil,	İ	İ	İ	İ	į	İ	İ
drained	10	! -	•	Very limited	•	Very limited	
	ļ	Frost action	1.00	<u>.                                      </u>	1.00	_	1.00
		Depth to	1.00	!		saturated zone	11 00
	 	saturated zone Low strength	1.00	Ponding Cutbanks cave	1.00  0.10	Ponding	1.00
	 	Ponding	11.00	Cuchanks cave	10.10	 	1
	i	Shrink-swell	0.50		i		i
	İ	İ	İ	İ	į	İ	İ
L15A:	ļ		ļ.				ļ
Klossner, ponded	30	! -	:	Very limited	:	Very limited	
	 	Ponding   Subsidence	1.00	!	1.00  1.00		1.00
	 	Frost action	11.00	<u>.                                      </u>	1	organic matter	1
	i	Depth to	1.00	!	1.00	Depth to	1.00
	į	saturated zone	i	organic matter	i	saturated zone	i
	ĺ	İ	İ	Cutbanks cave	0.10	İ	İ
			ļ		ļ		ļ
Okoboji, ponded	30	Very limited   Ponding	:	Very limited   Ponding	:	Very limited	11.00
	l I	Fronting   Frost action	1.00		1.00  1.00		1.00
	! 	Shrink-swell	11.00	<u>.                                      </u>		saturated zone	
	i	Depth to	1.00	Cutbanks cave	0.10		i
	İ	saturated zone	İ	İ	į	İ	İ
			ļ		ļ		ļ
Glencoe, ponded	30		11.00	Very limited   Ponding	  1.00	Very limited	11 00
	l I	Ponding Frost action	1.00	!	1.00	Ponding Depth to	1.00
	i I	Depth to	11.00		1	saturated zone	
	i	saturated zone	i	Cutbanks cave	0.10		i
	ĺ	Shrink-swell	0.50	İ	ĺ	ĺ	Ì
The state of the s							
Houghton, ponded	I I то	Very limited   Ponding	:	Very limited   Ponding	:	Very limited	1 00
	I I	Ponding   Subsidence	1.00  1.00		1.00  1.00	Ponding Content of	1.00
	i	Frost action	11.00	'		organic matter	
	i	Depth to	1.00		1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	1
					0.10		

Table 10b.--Building Site Development--Continued

Map symbol and component name	Pct. of map	Local roads an	d	   Shallow excavati   	ons	   Lawns and landsca   	ping
	unit   		Value	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value
	i						İ
L16A: Muskego, ponded	   30 	  Very limited   Ponding	    1.00	  Very limited   Ponding	    1.00	  Very limited   Ponding	    1.00
	;   	Frost action	1.00  1.00  1.00	organic matter	1.00    1.00	Content of organic matter	1.00    1.00
	   	saturated zone		saturated zone   Cutbanks cave	0.10	Depth to saturated zone	1.00
Blue Earth, ponded	   30 	  Very limited   Ponding	    1.00	  Very limited   Ponding	    1.00	  Very limited   Ponding	    1.00
	   	Frost action Depth to saturated zone	1.00  1.00	!	1.00    1.00	Depth to saturated zone	1.00   
	   	Shrink-swell   	0.50   	saturated zone Cutbanks cave	  0.10	 	   
Houghton, ponded	30 	Ponding	1.00	  Very limited   Ponding	1.00	  Very limited   Ponding	1.00
	   	Frost action	1.00  1.00  1.00	organic matter	1.00    1.00	Content of organic matter Depth to	1.00    1.00
	   	saturated zone   	 	saturated zone Cutbanks cave	  0.10 	saturated zone   	   
Klossner, ponded	10	Ponding	1.00	Very limited   Ponding	1.00	Very limited   Ponding	1.00
	   	Frost action	1.00  1.00  1.00	saturated zone	1.00    1.00	Content of organic matter Depth to	1.00    1.00
	   	saturated zone   	   	organic matter Cutbanks cave	  0.10 	saturated zone   	   
L26B:	i		İ	İ	İ	İ	i
Shorewood	90       	Frost action	  1.00  1.00  0.75	saturated zone	  1.00    0.15  0.10	Somewhat limited   Depth to   saturated zone   	  0.75     
Good Thunder	   5 	  Very limited   Frost action	    1.00	  Very limited   Depth to	    1.00	  Not limited 	   
	   	'	1.00 	•	  0.15  0.10	 	i   
Minnetonka	   5 	  Very limited   Frost action	    1.00	  Very limited   Depth to	    1.00	  Very limited   Depth to	    1.00
	 	!	1.00  1.00 	!	  0.12  0.10	saturated zone	     
L36A:		 	 	 	 	 	 
Hamel, overwash	50     	Frost action	  1.00  0.75		  1.00 	Somewhat limited   Depth to   saturated zone	  0.75 
	İ	saturated zone	İ	Cutbanks cave	0.10	İ	İ

Table 10b.--Building Site Development--Continued

component name	of map		d	Shallow excavati   	ons	   Lawns and landsca   	ping
	unit   	Rating class and		   Rating class and   limiting features			
L36A: Hamel	     43     	Frost action Depth to	1.00  1.00 	Depth to saturated zone Cutbanks cave	1.00	saturated zone	      1.00 
Terril	     5   	    Somewhat limited	    0.50	    Somewhat limited	0.78	 	
Glencoe	     	Frost action Depth to saturated zone Low strength Ponding	1.00  1.00 	Depth to saturated zone Ponding Cutbanks cave	1.00	saturated zone Ponding	  1.00    1.00   
L40B: Angus	   45   	Shrink-swell	0.50	  Somewhat limited   Depth to   saturated zone   Cutbanks cave	0.78	i I	
Kilkenny	   40       	Frost action Depth to saturated zone	1.00  0.56	Depth to   saturated zone   Cutbanks cave	1.00	:	    0.56   
Lerdal	   10     	Frost action Shrink-swell	1.00  1.00  0.60	Depth to   saturated zone   Too clayey	1.00	į	  0.60   
Mazaska	i	Frost action	1.00	Depth to   saturated zone   Cutbanks cave	1.00	•	
L41C2: Lester, eroded	   45     	Shrink-swell Frost action	    0.50  0.50  0.04	Slope	    0.10  0.04	! =	    0.04 
Kilkenny, eroded	   40     	Frost action Shrink-swell	1.00	Cutbanks cave	  1.00    0.10  0.04	į	  0.04   
Terril	   10       	•		  Somewhat limited   Depth to   saturated zone   Cutbanks cave	    0.78    0.10	  Not limited       	       

Table 10b.--Building Site Development--Continued

component name	Pct. of map	streets	đ	Shallow excavati   	ons	Lawns and landsca   	ping
	unit   	'		   Rating class and   limiting features		Rating class and limiting features	Value
L41C2: Derrynane	   5     	Shrink-swell	    1.00  1.00  1.00	saturated zone	    1.00    0.10	    Very limited   Depth to   saturated zone 	      1.00   
L41D2: Lester, eroded	     45   	Slope   Shrink-swell	      1.00  0.50  0.50	Cutbanks cave	      1.00  0.10	    Very limited   Slope   	      1.00
Kilkenny, eroded	   35       	Frost action   Slope	1.00	Depth to saturated zone	  1.00  1.00    0.10	- 	  1.00   
Terril	   10     	!	:	  Somewhat limited   Depth to   saturated zone   Cutbanks cave	    0.78    0.10	İ	       
Derrynane	   5     	Frost action   Shrink-swell	:	Depth to saturated zone	  1.00    0.10	saturated zone	  1.00   
Ridgeton	   5   	!	    0.50  0.16	· -	  0.16  0.10	  Somewhat limited   Slope 	    0.16 
L41E: Lester	     45   	Slope   Shrink-swell	    1.00  0.50  0.50	· -	    1.00  0.10	    Very limited   Slope   	    1.00
Kilkenny	   40       	Slope   Frost action	  1.00  1.00  0.50	Depth to	  1.00  1.00    0.10	  Very limited   Slope   	  1.00   
Terril	   5     	  Somewhat limited   Frost action   	    0.50   	  Somewhat limited   Depth to   saturated zone   Cutbanks cave	    0.78    0.10	  Not limited     	       
Derrynane	   5       	Shrink-swell	  1.00  1.00  1.00	saturated zone	    1.00    0.10	saturated zone	  1.00   
Ridgeton	   5     		    0.96  0.50		    0.96  0.10		    0.96 

Table 10b.--Building Site Development--Continued

component name	Pct. of map	   Local roads an   streets 	d	   Shallow excavati   	ons	   Lawns and landsca   	ping
	unit   			   Rating class and   limiting features		   Rating class and   limiting features	Value
L48A: Derrynane, overwash	   50     	Frost action Shrink-swell	:	•	    1.00    0.10	  Somewhat limited   Depth to   saturated zone   	  0.75   
Derrynane	   40       	Frost action Shrink-swell	:	!	    1.00    0.10	  Very limited   Depth to   saturated zone 	  1.00   
Glencoe	   5         	Depth to saturated zone Frost action Low strength	  1.00  1.00    1.00  1.00  0.50	Depth to   saturated zone   Cutbanks cave	  1.00  1.00    0.10	  Very limited   Ponding   Depth to   saturated zone 	  1.00  1.00     
Terril	   5   	  Somewhat limited   Frost action   	    0.50   	  Somewhat limited   Depth to   saturated zone   Cutbanks cave	    0.78    0.10	  Not limited     	       
L49A:	 	 	 	 	 	 	
Klossner, surface drained	   65         	Subsidence Frost action Depth to saturated zone	  1.00  1.00  1.00    1.00	saturated zone Ponding Content of	  1.00    1.00  1.00 	Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	  1.00    1.00    1.00
Klossner, drained	   20           	Subsidence Frost action Depth to saturated zone	  1.00  1.00  1.00    1.00	saturated zone Ponding Content of organic matter	1.00    1.00  1.00	Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	  1.00    1.00    1.00
Mineral soil, drained	   15           	Frost action Depth to saturated zone Low strength Ponding		Ponding Cutbanks cave	   1.00   1.00   0.10 	saturated zone	  1.00    1.00 

Table 10b.--Building Site Development--Continued

component name	Pct. of map	Local roads an streets	d	Shallow excavati   	ons	Lawns and landsca   	ping
	unit 		Value	   Rating class and	Value	   Rating class and	Value
	<u></u>	limiting features		limiting features		limiting features	
L50A: Houghton, surface drained	       40	      Very limited	   	      Very limited	   	      Very limited	   
dramed	<del>1</del> 0 	Subsidence	  1.00  1.00	Content of	1.00	! -	1.00
	     	saturated zone	1.00    1.00 	saturated zone	1.00    1.00  0.10	Depth to saturated zone Ponding	1.00    1.00
Muskego, surface	 	[ 	 	 	 	 	 
drained	40         	Subsidence Frost action Depth to saturated zone	  1.00  1.00  1.00 	organic matter Depth to saturated zone	  1.00    1.00    1.00	organic matter Carbonate content Depth to	  1.00    1.00  1.00
	 	 	 	Cutbanks cave	0.10 	į	1.00
Klossner, drained	10   	Subsidence Frost action	  1.00  1.00	saturated zone	  1.00    1.00	organic matter	  1.00    1.00
	     	saturated zone		Content of	1.00	saturated zone   Ponding	    1.00
Mineral soil,			 	 	 	 	
drained	10         	Frost action Depth to saturated zone Low strength Ponding	1.00  1.00    1.00  1.00	saturated zone Ponding Cutbanks cave	  1.00    1.00  0.10	Very limited   Depth to   saturated zone   Ponding	  1.00    1.00 
	 	Shrink-swell 	0.50 	 	 	 	 
L51C2: Gladek, eroded	   80   	<u> </u>	  1.00  0.50  0.04	  Somewhat limited   Cutbanks cave   Slope 	    0.10  0.04	  Somewhat limited   slope   	    0.04 
Barrington	   10     		    1.00  0.50		    1.00  1.00	  Not limited     	       
Lester, eroded	   5     	Frost action	  0.50  0.50  0.04		  0.10  0.04	  Somewhat limited   Slope   	    0.04   
Madelia	   5     	1	  1.00  1.00    0.50	saturated zone Cutbanks cave	 	  Very limited   Depth to   saturated zone   	    1.00     

Table 10b.--Building Site Development--Continued

Map symbol and component name	Pct. of map	streets	đ	   Shallow excavati   	ons	   Lawns and landsca:   	ping
	unit   		Value	   Rating class and   limiting features		   Rating class and   limiting features	Value
L56A: Muskego, frequently		 		 	   	   	   
flooded	45     	Very limited   Ponding   Subsidence   Frost action	  1.00  1.00  1.00	Content of	  1.00  1.00	Flooding	  1.00  1.00  1.00
	     	Flooding   Depth to   saturated zone 	1.00	! =	1.00    0.80  0.10	Carbonate content	  1.00  1.00
Klossner, frequently	 	 		 		 	 
flooded	45             	Ponding Subsidence Frost action	  1.00  1.00  1.00  1.00  1.00	Depth to saturated zone Content of	  1.00  1.00    1.00    0.80  0.10	Flooding Content of organic matter	  1.00  1.00  1.00    1.00 
Suckercreek, frequently flooded	   10       	Frost action	  1.00  1.00  1.00	Depth to	  1.00  1.00    0.80	  Very limited   Flooding   Depth to   saturated zone	    1.00  1.00 
L57A: Medo, drained	   80   81   1   1	Ponding Subsidence	    1.00  1.00  1.00  1.00	Cutbanks cave	    1.00  1.00  1.00    1.00	Content of   organic matter	    1.00  1.00    1.00
Mineral soil, drained	   15       	  Very limited   Ponding   Frost action   Depth to   saturated zone	    1.00  1.00  1.00	!	    1.00  1.00  1.00	!	      1.00  1.00
Houghton, drained	   5           	Frost action	1.00  1.00  1.00	Content of	  1.00  1.00    1.00    0.10	Content of organic matter	  1.00  1.00    1.00 
L63A: Klossner	   85           	Ponding Depth to saturated zone Subsidence	  1.00  1.00    1.00  1.00	Depth to saturated zone Content of	   1.00  1.00   1.00   1.00   0.10	Content of organic matter	    1.00  1.00    1.00

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit	streets	d	   Shallow excavati     	ons	   Lawns and landsca     	ping
		Rating class and		Rating class and limiting features			
L63A: Lura	     10 	Ponding	1.00	!	1.00	    Very limited   Too clayey   Ponding	      1.00
	     		1.00	saturated zone Too clayey Cutbanks cave	0.72	saturated zone	1.00     
Brownton	j 	Frost action Shrink-swell Depth to	1.00  1.00  1.00	Depth to   saturated zone   Too clayey	1.00	į	  1.00   
L64A: Tadkee	     50   	Frost action	1.00  1.00	:	1.00	  Very limited   Depth to   saturated zone	    1.00 
Tadkee, depressional	   36       	Ponding Depth to saturated zone	1.00  1.00 	Ponding	1.00  1.00 	  Very limited   Ponding   Depth to   saturated zone	  1.00  1.00 
Better drained soil	   8   	!	:	Cutbanks cave	1.00	:	       
Granby	   4     	Ponding Depth to saturated zone	1.00  1.00 	Ponding	1.00  1.00 		  1.00  1.00    0.13
Less sandy soil	   2     	Frost action   Depth to	1.00  1.00	Depth to saturated zone	1.00	Very limited Depth to saturated zone	  1.00   
L73A: Blue Earth	   	Ponding Depth to saturated zone	1.00  1.00    1.00	Ponding	1.00  1.00    1.00	-   saturated zone   	  1.00  1.00   
Belleville	   10     	Frost action   Depth to	1.00  1.00	  Very limited   Depth to   saturated zone   Cutbanks cave	1.00	saturated zone	    1.00 
Canisteo	   10       	Frost action	1.00  1.00	•	1.00	•	    1.00   

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit	streets	d	Shallow excavati     	ons	Lawns and landscaping     		
		Rating class and		Rating class and limiting features				
L74A: Estherville	     87 	    Not limited 	     	    Very limited   Cutbanks cave		    Somewhat limited   Droughty	      0.12	
Hawick	   10 	  Not limited 	•	  Very limited   Cutbanks cave	•	  Very limited   Droughty	1.00	
Biscay	i I	Frost action	1.00  1.00 	Depth to   saturated zone   Cutbanks cave	1.00	!	  1.00     	
L75B: Barrington	į	Frost action	1.00	Cutbanks cave	1.00	•	       	
Gladek	j 	Frost action Shrink-swell	1.00	· -		Slope	  0.04   	
Madelia	į	Frost action Depth to	1.00  1.00 	Depth to   saturated zone   Cutbanks cave	1.00	  Very limited   Depth to   saturated zone 	  1.00   	
L76B: Dickinson	     80			    Very limited   Cutbanks cave			 	
Litchfield	:	Depth to saturated zone	0.90	Cutbanks cave	1.00	  Somewhat limited   Depth to   saturated zone 	  0.90 	
Darfur	   5   	Depth to saturated zone	1.00	  Very limited   Depth to   saturated zone   Cutbanks cave	1.00	Depth to saturated zone	  1.00 	
Clarion	   2     	  Somewhat limited   Frost action   		Depth to saturated zone	0.78	İ	       	
L77A: Brownton	     75     	Frost action Shrink-swell	1.00  1.00  1.00	Depth to   saturated zone   Too clayey	1.00	saturated zone	      1.00   	
Marna	   15         	Frost action Shrink-swell	1.00  1.00  1.00	Depth to   saturated zone   Too clayey	1.00	saturated zone	  1.00     	

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit	streets	d	Shallow excavati     	ons	Lawns and landsca	nping
	į		•	Rating class and limiting features	•		
	 	limiting reatures		limiting reatures	 	limiting reacures	<del> </del>
L77A:							
Lura	10 	! - T	1	Very limited   Ponding	:	Very limited   Too clayey	11.00
		!	1		11.00	!	11.00
	i	saturated zone	:	saturated zone	i	Depth to	1.00
	ļ	Frost action			0.72	!	İ
		Shrink-swell	1.00	Cutbanks cave	0.10	 	
L78A:	i	 				! 	¦
Canisteo	65			Very limited		Very limited	1
	ļ	!	1	! =	:	Depth to	1.00
	 	Depth to saturated zone	1.00 	!	  0.10	saturated zone	
	i		İ			İ	i
Crippin	10		:	!	!	Somewhat limited	
		Frost action Depth to		Depth to saturated zone		Depth to saturated zone	0.78
	i	saturated zone	1	Cutbanks cave	0.10	•	i
					ļ		ļ
Glencoe	10 	! -	1	! -	:	Very limited   Ponding	11.00
	 	Depth to	•		•	Depth to	11.00
	i	saturated zone		saturated zone	!	saturated zone	i
		Frost action	1.00	Cutbanks cave	0.10		1
	ļ	!	1.00		ļ		!
		Shrink-swell 	0.50 	 	 	 	
Canisteo,	į	İ	į	İ	į	İ	į
depressional	5	! -	:	! -	:	Very limited	
	 	Ponding Depth to	1	!	!	Ponding Depth to	1.00
	i	saturated zone	:	: -		saturated zone	
	İ	Frost action		Cutbanks cave	0.10	İ	İ
	 	Shrink-swell	0.50	 	l I	 	
Harps	5	  Very limited		  Very limited		  Very limited	
	İ	Frost action	1.00	Depth to	1.00	Depth to	1.00
	ļ	Depth to	1.00	!		saturated zone	!
	l I	saturated zone		Cutbanks cave	0.10 	 	
Webster	5			  Very limited	į	  Very limited	i
	ļ	:	:	Depth to	2	Depth to	1.00
		! -	1	saturated zone Cutbanks cave	  0.10	saturated zone	!
		Sacuraced Zone		cacbanks cave		! 	¦
L79B:		la manda e a la la la la la la la la la la la la l		I demonstrate and the second		 	
Clarion	65 	•		Somewhat limited   Depth to	  0.78	:	!
		Frost action	1	saturated zone	!	! 	i
	i	İ	į	•	0.10	İ	i
Clarion, eroded	   2F	  Somewhat limited				  Not limited	
crarron, eroded	43 	•	•	Somewhat limited   Depth to	  0.78	•	
	i			saturated zone	•	İ	i
				Cutbanks cave	0.10		
Nicollet	l   8	  Very limited	1	  Very limited	 	  Somewhat limited	 
	į į			:	:	Depth to	0.78
	ļ			saturated zone		saturated zone	ļ
		•		Cutbanks cave	0.10	 	
	!	Shrink-swell	0.50	1	1	1	!

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit	į	đ	Shallow excavations   		Lawns and landscaping	
		Rating class and		Rating class and   limiting features			
L79B: Webster	į	Frost action Depth to	1.00  1.00		1.00	saturated zone	      1.00
L80C2: Lester, eroded	į	Shrink-swell   Frost action	0.50	Cutbanks cave	:	Slope	    0.04 
Terril	   10     	•	0.50	  Somewhat limited   Depth to   saturated zone   Cutbanks cave	0.78	 	       
Hamel	   	Frost action   Depth to	1.00  1.00 	Depth to saturated zone Cutbanks cave	1.00	saturated zone	  1.00   
Reedslake	İ	Shrink-swell	0.50	Depth to saturated zone	0.78	 	       
Storden, eroded	į Į	Shrink-swell   Frost action	0.50	Cutbanks cave		Slope	  0.04 
L80D2: Lester, eroded	   75     	Slope   Shrink-swell	1.00	Slope   Cutbanks cave	•	  Very limited   Slope 	      1.00
Ridgeton	   10   	Slope	0.63			  Somewhat limited   Slope 	  0.63
Storden, eroded	   8     	Slope	1.00  0.50	Slope   Cutbanks cave	1.00		    1.00 
Terril	   5     	  Somewhat limited   Frost action   	0.50	  Very limited   Depth to   saturated zone   Cutbanks cave	1.00	İ	
Hamel	   	Frost action Depth to saturated zone	1.00  1.00	Depth to saturated zone Cutbanks cave	1.00	saturated zone	

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit	į	đ	Shallow excavations   		Lawns and landscaping	
		Rating class and	•	Rating class and   limiting features	•	-	
L81A: Cordova		Frost action   Depth to	1.00	Depth to saturated zone	1.00	saturated zone	      1.00
	   	saturated zone   Shrink-swell 		Cutbanks cave   	0.10   	   	   
Le Sueur	     	Frost action Depth to saturated zone	1.00  0.78	Depth to   saturated zone   Cutbanks cave	1.00	saturated zone	
Rolfe	   	Ponding Depth to saturated zone Frost action	1.00  1.00      1.00	Ponding	1.00  1.00      0.10	Depth to saturated zone	  1.00  1.00   
L82A:	i	İ	į	İ	į	İ	İ
Marna	į	Frost action Shrink-swell Depth to	1.00  1.00  1.00		1.00    0.28	saturated zone	  1.00   
Barbert	;   	Ponding Depth to saturated zone Frost action	1.00  1.00      1.00	Ponding	1.00  1.00      0.72	saturated zone	  1.00  1.00 
Guckeen		  Very limited   Frost action     	1.00	•	1.00    0.10		
L83A: Webster	   65     	Frost action	1.00	saturated zone	1.00	  Very limited   Depth to   saturated zone	
Glencoe	   15         	Ponding Depth to saturated zone Frost action Low strength	1.00  1.00 	Ponding Depth to saturated zone Cutbanks cave	1.00	  Very limited   Ponding   Depth to   saturated zone 	  1.00  1.00   
Canisteo	   10       	Frost action	1.00	  Very limited   Depth to   saturated zone   Cutbanks cave 	:	  Very limited   Depth to   saturated zone 	    1.00   

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit	streets	đ	   Shallow excavati     	ons	   Lawns and landsca   	ping
	   	'	•	Rating class and   limiting features		Rating class and   limiting features	
L83A: Nicollet	   10   10     	Frost action Depth to saturated zone	    1.00  0.78    0.50	saturated zone Cutbanks cave	      1.00    0.10	saturated zone	    0.78   
L84A: Glencoe	   80           	Ponding Depth to saturated zone Frost action Low strength	:	Depth to   saturated zone   Cutbanks cave	:	saturated zone	  1.00  1.00     
Very poorly drained muck		Ponding Depth to saturated zone Subsidence Frost action	1.00  1.00 	Depth to saturated zone Cutbanks cave	1.00  1.00 		  1.00  1.00      1.00
Canisteo	   5     	!	1.00	saturated zone	:	  Very limited   Depth to   saturated zone	1.00
Harps	   5     	!	:	saturated zone		  Very limited   Depth to   saturated zone	  1.00 
L85A: Nicollet	   85       	Frost action Depth to saturated zone	:	saturated zone Cutbanks cave	    1.00    0.10	saturated zone	0.78
Clarion	   10     	!	:	saturated zone	0.78	İ	       
Webster	   5     	Frost action	1.00	saturated zone	1.00	  Very limited   Depth to   saturated zone 	    1.00   
L86A: Madelia	   90         	Frost action Depth to saturated zone	1.00	saturated zone Cutbanks cave	1.00	saturated zone	  1.00     

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit	į	đ	Shallow excavati     	ons	Lawns and landscaping	
		Rating class and	•	Rating class and   limiting features			
L86A:						 	
Okoboji	;   	Ponding Depth to saturated zone Frost action	1.00  1.00      1.00	Ponding	1.00  1.00      0.10	Depth to saturated zone	  1.00  1.00 
		Shrink-swell	1.00		ļ		ļ
Spicer	;   	Frost action   Depth to   saturated zone	1.00	Depth to saturated zone Cutbanks cave	1.00	saturated zone	  1.00   
Kingston	į	Frost action   Depth to	1.00  0.78		1.00	•	  0.78   
L87A:		! 		! 		 	
Kingston	į	Frost action Depth to	1.00  0.78		1.00	•	  0.78   
Truman		  Very limited   Frost action   	1.00	•	0.78	İ	       
Madelia	į	Frost action   Depth to   saturated zone	1.00	Depth to   saturated zone   Cutbanks cave	1.00	saturated zone	  1.00   
L88A:	 	 		 		 	i
Lura	85           	Ponding Depth to saturated zone Frost action	1.00	Ponding   Depth to   saturated zone   Too clayey	1.00	Ponding Depth to saturated zone	  1.00  1.00  1.00
Brownton	10         	Frost action   Shrink-swell	1.00  1.00  1.00	Too clayey	:	!	  1.00   
Organic soil	   5           	Depth to   saturated zone   Subsidence   Frost action	1.00  1.00 	Depth to   saturated zone   Cutbanks cave	1.00  1.00 	  Very limited   Ponding   Content of   organic matter   Depth to   saturated zone	  1.00  1.00    1.00

Table 10b.--Building Site Development--Continued

component name	Pct. of map	streets	d	   Shallow excavati   	ons	   Lawns and landsca   	ping
	unit   	Rating class and	•	   Rating class and   limiting features	,		•
L89A: Guckeen	   82       	Frost action	:	  Very limited   Depth to   saturated zone   Cutbanks cave   Too clayey	,	  Somewhat limited   Depth to   saturated zone 	      0.78   
Marna	   10       	Frost action Shrink-swell	1.00  1.00  1.00	!		   Very limited   Depth to   saturated zone 	  1.00   
Clarion clay loam	   8     	!	!	  Somewhat limited   Depth to   saturated zone   Cutbanks cave	  0.78    0.10	  Not limited     	       
L90A:	į	İ	į	j	į	İ	İ
Le Sueur	75       	Frost action Depth to saturated zone	1.00  0.78	Cutbanks cave	,	Somewhat limited   Depth to   saturated zone 	  0.78   
Cordova	   13       	Frost action		saturated zone Cutbanks cave		  Very limited   Depth to   saturated zone 	  1.00   
Reedslake	   12       	1	•	  Somewhat limited   Depth to   saturated zone   Cutbanks cave	  0.78    0.10	  Not limited     	       
L91A:	j	İ	į	j	į	İ	İ
Mazaska	85       	Frost action Shrink-swell	1.00	!	1.00	Very limited   Depth to   saturated zone   	  1.00   
Lerdal	   10     	Frost action Shrink-swell	1.00  1.00  0.60	!	,	•	  0.60   
Rolfe	   5         	Depth to saturated zone Frost action	1.00  1.00      1.00			saturated zone	  1.00  1.00     
L92A: Darfur	   78     	Depth to saturated zone	•	  Very limited   Depth to   saturated zone   Cutbanks cave	    1.00    1.00	saturated zone	    1.00   

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit	streets	d	Shallow excavati   	ons	   Lawns and landsca:   	ping
		Rating class and				Rating class and   limiting features	
L92A: Fieldon	i I	Depth to saturated zone	1.00		1.00	saturated zone	      1.00
Litchfield	   5 	  Somewhat limited   Depth to   saturated zone	    0.90	  Very limited   Cutbanks cave	    1.00  1.00	  Somewhat limited	      0.90 
Webster	:	Frost action	1.00  1.00	Depth to saturated zone	1.00	saturated zone	    1.00   
Dassel	i I	Depth to saturated zone Frost action	1.00    1.00	Depth to   saturated zone   Cutbanks cave	1.00	saturated zone Ponding	    1.00    1.00
L93A: Muskego	į	Ponding Depth to saturated zone Subsidence Frost action	1.00  1.00    1.00  1.00	Ponding Depth to saturated zone Content of organic matter	1.00  1.00    1.00	Very limited Ponding Content of organic matter Depth to saturated zone Carbonate content	  1.00 
Blue Earth	į	Ponding	1.00  1.00 	Ponding Depth to saturated zone	1.00  1.00    1.00	Depth to saturated zone	  1.00  1.00     
Mineral soil, drained	   5   6     7	Ponding Frost action Depth to saturated zone Low strength	1.00  1.00  1.00	saturated zone Cutbanks cave	    1.00  1.00    0.10	Depth to saturated zone	    1.00  1.00     
Belleville	   3     	saturated zone	1.00	saturated zone	!	  Very limited   Depth to   saturated zone 	    1.00     
L94A: Lowlein	   75       	!	      0.50   	!	    1.00  1.00 	!	         

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit	į	đ	   Shallow excavati     	ons	   Lawns and landsca     	ping
		Rating class and				Rating class and limiting features	
L94A: Linder	i	Frost action Depth to	1.00  0.90	Cutbanks cave	1.00	  Somewhat limited   Depth to   saturated zone	      0.90 
Dickinson		  Somewhat limited   Frost action	•	•		•	   
Darfur	j I	Depth to	1.00	saturated zone	1.00	Depth to saturated zone	  1.00 
L95E: Hawick	   80     	•		  Very limited   Cutbanks cave   Slope	1.00	Slope	    1.00  1.00  0.01
Estherville	   10   		1.00	  Very limited   Cutbanks cave   Slope	1.00	Slope	  1.00  0.59
Toma11		  Somewhat limited   Frost action   	0.50	Cutbanks cave	1.00	•	       
L96B: Estherville	   55 	    Not limited 	   	    Very limited   Cutbanks cave		    Somewhat limited   Droughty	0.12
Hawick	   35 	  Not limited 		  Very limited   Cutbanks cave	•	  Very limited   Droughty	1   1.00
Tomall		  Somewhat limited   Frost action   	0.50	Cutbanks cave	1.00  0.61	1	     
Biscay	   2       	saturated zone	1.00 	  Very limited   Depth to   saturated zone   Cutbanks cave 		  Very limited   Depth to   saturated zone   	  1.00     
L97C: Hawick	   60 	•		  Very limited   Cutbanks cave   Slope	1.00	  Very limited   Droughty   Slope	    1.00  0.04
Estherville	   30   	•		  Very limited   Cutbanks cave   Slope	1.00	  Somewhat limited   Droughty   Slope	    0.12  0.04
Tomall	   10     	!	    0.50   	  Very limited   Cutbanks cave	į	  Not limited 	

Table 10b.--Building Site Development--Continued

component name	Pct. of map	streets	d	Shallow excavations   		Lawns and landscaping   	
	unit   	'	:	   Rating class and   limiting features	•	   Rating class and   limiting features	
L98A: Crippin	     50   	Frost action	1.00  0.78	saturated zone	1.00	  Somewhat limited   Depth to   saturated zone	      0.78 
Nicollet	   40       	Frost action Depth to saturated zone	1.00  0.78	saturated zone Cutbanks cave	1.00	  Somewhat limited   Depth to   saturated zone 	    0.78   
Canisteo	   5     	Frost action	1.00	Depth to saturated zone	1.00	  Very limited   Depth to   saturated zone 	    1.00 
Clarion	   5     	  Somewhat limited   Frost action   	•	saturated zone	0.78	į	       
L99B: Clarion	     62     	!	:	Depth to saturated zone	      0.78    0.10	į	         
Swanlake	   25     		•	Depth to saturated zone	    0.78    0.10	į	       
Nicollet	   10       	Frost action Depth to saturated zone	1.00  0.78	saturated zone Cutbanks cave	1.00	  Somewhat limited   Depth to   saturated zone 	  0.78   
Webster	   3     	Frost action	•	saturated zone	1.00	  Very limited   Depth to   saturated zone 	  1.00   
L100B: Clarion	   45     		    0.50 	saturated zone	    0.78    0.10	  Not limited     	       
Estherville	   35 	  Not limited 	   	  Very limited   Cutbanks cave	    1.00	  Somewhat limited   Droughty	0.12
Lowlein	   5     	  Somewhat limited   Frost action   	•	!	    1.00  1.00 	  Not limited     	       

Table 10b.--Building Site Development--Continued

component name	of map	į	đ	Shallow excavati	ons	Lawns and landsca	ping
	unit   	Rating class and		   Rating class and   limiting features			
L100B: Nicollet	:	Frost action Depth to	1.00  0.78 	Depth to saturated zone Cutbanks cave	1.00	•	
Swanlake	•	  Somewhat limited   Frost action   	0.50	•	0.78 	İ	       
Webster		Frost action Depth to	1.00  1.00	Very limited Depth to saturated zone Cutbanks cave	1.00	saturated zone	  1.00   
L101C2: Omsrud, eroded	   40   	Frost action	0.50	Cutbanks cave		•	    0.04 
Hawick	   30   	•	0.04	Cutbanks cave	1.00	:	1.00
Storden, eroded	   20   	Frost action	0.50	Cutbanks cave			    0.04 
Delft	į	Frost action Depth to saturated zone	1.00  1.00	Depth to   saturated zone   Cutbanks cave	1.00	saturated zone	  1.00   
Terril		  Somewhat limited   Frost action   		•	0.78	İ	       
L101D2: Omsrud, eroded	   40   	Slope	    1.00  0.50	! -	    1.00  0.10	! -	    1.00
Hawick	   25   				  1.00  1.00	<u> </u>	  1.00  1.00
Storden, eroded	   20   	Slope	    1.00  0.50	! =	    1.00  0.10	<u> </u>	    1.00
Ridgeton	   6     	Slope	    0.63  0.50 	! -	    0.63  0.10 	! -	  0.63 

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit		đ	Shallow excavati     	ons	Lawns and landsca    - 	ping
	unite   		•	Rating class and   limiting features	•		
L101D2: Delft		Frost action Depth to saturated zone	1.00  1.00	Depth to saturated zone Cutbanks cave	1.00 	saturated zone	
Terril	   4     	    Somewhat limited		İ	1.00	İ	
L102C2: Omsrud, eroded	     45 	Frost action	0.50	Cutbanks cave		<u> </u>	    0.04
Storden, eroded	   25   	Frost action	0.50	Cutbanks cave	•	Slope	    0.04 
Omsrud	   15   	Frost action	0.50	Cutbanks cave		Slope	    0.04 
Terril	   10     		0.50	:	0.78		       
Delft	:	Frost action Depth to saturated zone	1.00  1.00	Depth to saturated zone Cutbanks cave	1.00	saturated zone	  1.00   
L102D2: Omsrud, eroded	     45   	Slope	1.00	Slope		  Very limited   Slope 	      1.00
Storden, eroded	   20 	Slope	1.00	  Very limited   Slope   Cutbanks cave	  1.00  0.10	<u> </u>	    1.00
Omsrud	   15   	Slope	1.00	  Very limited   Slope   Cutbanks cave	  1.00  0.10	:	
Ridgeton	   8   		0.63	  Somewhat limited   Slope   Cutbanks cave	  0.63  0.10	•	  0.63
Delft	   6       	Depth to saturated zone	:	Cutbanks cave	:	  Very limited   Depth to   saturated zone   	  1.00     

Table 10b.--Building Site Development--Continued

component name	Pct. of map	streets	đ	Shallow excavati	ons	Lawns and landsca	ping
	unit   	Rating class and   limiting features		Rating class and   limiting features	,	Rating class and   limiting features	
L102D2: Terril	     6     	  Somewhat limited   Frost action   	      0.50   	saturated zone	      1.00    0.10	į	         
L103A: Fieldon	   50     	Depth to saturated zone	1.00	saturated zone		  Very limited   Depth to   saturated zone	    1.00 
Canisteo	   35     	Frost action	:	Depth to saturated zone		   Very limited   Depth to   saturated zone	1.00
Darfur	   10     	Depth to saturated zone	1.00	saturated zone	1.00	  Very limited   Depth to   saturated zone 	1.00
Glencoe	   5         	Depth to saturated zone Frost action Low strength	1.00  1.00	Depth to   saturated zone   Cutbanks cave	:	saturated zone	  1.00  1.00   
L105C2: Lester, eroded	     45   	Shrink-swell   Frost action	    0.50  0.50  0.04	Slope	      0.10  0.04	! -	    0.04 
Hawick	   35   	:	    0.04 	!	:	  Very limited   Droughty   Slope	  1.00  0.04
Terril	   10     		    0.50   	  Somewhat limited   Depth to   saturated zone   Cutbanks cave	    0.78    0.10	  Not limited   	       
Hamel	   5     	Depth to saturated zone	  1.00  1.00    0.50	saturated zone Cutbanks cave	    1.00    0.10	  Very limited   Depth to   saturated zone 	  1.00   
Storden, eroded	   5     	!	    0.50  0.04	!	    0.10  0.04	! -	  0.04 
L105D2: Lester, eroded	   45       	Slope   Shrink-swell	    1.00  0.50  0.50	Cutbanks cave	    1.00  0.10 	  Very limited   Slope     	    1.00 

Table 10b.--Building Site Development--Continued

component name	Pct. of map	streets	d	Shallow excavati   	ons	Lawns and landsca	aping
	unit   	'		   Rating class and   limiting features		   Rating class and   limiting features	
L105D2: Hawick	     35   	! - T	      1.00	!	      1.00  1.00	! -	    1.00  1.00
Ridgeton	   8   	Slope	    0.63  0.50	· -	  0.63  0.10		    0.63 
Hamel	   5     	Depth to saturated zone	:	saturated zone Cutbanks cave	  1.00    0.10	saturated zone	  1.00   
Storden, eroded	   5   	Slope	    1.00  0.50	Slope	  1.00  0.10		1.00
Terril	   2     	!	1	Depth to saturated zone	    1.00    0.10	  Not limited     	         
L106C2: Lester, eroded	   62     	Shrink-swell   Frost action	    0.50  0.50  0.04	Slope	    0.10  0.04		    0.04 
Storden, eroded	   20   	Frost action	    0.50  0.04	!		  Somewhat limited   Slope 	    0.04 
Terril	   10   	!	:	saturated zone	    0.78    0.10	  Not limited     	       
Hamel	   5     	   Very limited   Frost action   Depth to   saturated zone   Shrink-swell	  1.00  1.00    0.50	! -	  1.00    0.10	   Very limited   Depth to   saturated zone 	  1.00   
Reedslake	   3     		  0.50  0.50   		  0.78    0.10	  Not limited     	         
L106D2: Lester, eroded	   62     	Slope   Shrink-swell	    1.00  0.50  0.50	Cutbanks cave	    1.00  0.10 	  Very limited   Slope 	    1.00 
Storden, eroded	   20     	Slope	    1.00  0.50	! -	    1.00  0.10	  Very limited   Slope   	    1.00 

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit	streets	d	   Shallow excavati     	ons	   Lawns and landsca     	ping
	   	Rating class and		Rating class and   limiting features			
L106D2: Ridgeton	     10   	Slope	      0.63  0.50	· -		    Somewhat limited   Slope 	      0.63
Terril	   5   	  Somewhat limited   Frost action   		saturated zone	1.00	į	       
Hamel	   3       	Depth to saturated zone	:	Cutbanks cave	:	  Very limited   Depth to   saturated zone 	  1.00   
L107A: Canisteo	   50     	Frost action	1.00	saturated zone		  Very limited   Depth to   saturated zone	    1.00 
Glencoe	   35         	Ponding Depth to saturated zone Frost action Low strength	1.00  1.00 	į	1.00	  Very limited   Ponding   Depth to   saturated zone   	  1.00  1.00   
Harps	   10     	Frost action	:	  Very limited   Depth to   saturated zone   Cutbanks cave	:	  Very limited   Depth to   saturated zone	  1.00 
Canisteo, depressional	   3       	Ponding Depth to saturated zone	1.00  1.00 	Ponding Depth to saturated zone	1.00	  Very limited   Ponding   Depth to   saturated zone 	  1.00  1.00 
Crippin	   2       	1		  Very limited   Depth to   saturated zone   Cutbanks cave		  Somewhat limited   Depth to   saturated zone 	  0.78   
L108A: Cordova	   65       	Frost action Depth to saturated zone	:	Cutbanks cave	:	  Very limited   Depth to   saturated zone 	1.00
Rolfe	   30         	Ponding Depth to saturated zone Frost action	1.00  1.00 	Depth to   saturated zone   Cutbanks cave	1.00	Depth to saturated zone	  1.00  1.00   

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit	of streets		   Shallow excavati   	ons	   Lawns and landsca     	ping
	unit	Rating class and		Rating class and   limiting features	,		
L108A: Le Sueur	   5   6   1	Depth to saturated zone	:	saturated zone Cutbanks cave		  Somewhat limited   Depth to   saturated zone 	      0.78     
L109A: Marna	     65       	Frost action   Shrink-swell	1.00  1.00  1.00	saturated zone Too clayey	1.00	!	    1.00   
Barbert	   30       	Ponding Depth to saturated zone Frost action	1.00  1.00      1.00	saturated zone Too clayey	1.00	Depth to saturated zone	  1.00  1.00   
Guckeen	   5       	!	1.00  0.78	! =	!	!	  0.78   
L110E: Lester	     50   	Slope   Shrink-swell	    1.00  0.50	Cutbanks cave	      1.00  0.10	! -	      1.00
Ridgeton	   30   	Slope	    1.00  0.50	· -	:	  Very limited   Slope 	    1.00
Cokato	   10     	Slope   Shrink-swell	  1.00  0.50  0.50	Cutbanks cave	:	  Very limited   Slope   	  1.00 
Belview	   6   	Slope	1.00	Slope		  Very limited   Slope 	1 1.00
Hamel	:	Frost action Depth to saturated zone	1.00  1.00	Depth to saturated zone Cutbanks cave	1.00	saturated zone	  1.00   
Terril	   2       			   Somewhat limited   Depth to   saturated zone   Cutbanks cave	0.78	į	

Table 10b.--Building Site Development--Continued

component name	Pct.	streets	d	Shallow excavati	ons	   Lawns and landsca 	ping
	map  unit	!		 		 	
		Rating class and	•	Rating class and limiting features			•
	ļ		ļ	<u> </u>	ļ		ļ
L110F: Lester	   55	  Vorw limited		  Very limited		  Very limited	!
Tepcel	33	! -	:		:	Slope	1
	i			Cutbanks cave			i
		Frost action	0.50	[	1	!	1
Ridgeton	20	 		  Very limited		  Very limited	
Ridgeton	30 					Slope	1.00
	i		•		0.10	! -	
	İ	İ	İ	İ	İ	İ	İ
Cokato	8		•			Very limited	ļ
					10.10	Slope	1.00
		!	0.50	!	10.10	 	1
	i			İ	i		i
Belview	4	Very limited	İ	Very limited	İ	Very limited	İ
	ļ		•			Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	 	!
Terril	1 2	  Somewhat limited	1	  Somewhat limited	1	  Not limited	1
	i	!	:	!	0.78	!	i
	ĺ	İ	Ì	saturated zone	İ	ĺ	Ì
	ļ		ļ	Cutbanks cave	0.10		ļ
Hamel	   1	  Verv limited		  Very limited		  Very limited	
11dillo1	-		•	Depth to			1.00
	i	!	:	saturated zone	:	saturated zone	i
	ļ	saturated zone	:	!	0.10	!	!
		Shrink-swell	0.50				
L111A:		 		 		 	1
Nicollet	85	  Very limited	i	  Very limited	i	Somewhat limited	i
		Frost action	1.00	Depth to	1.00	Depth to	0.78
	ļ			saturated zone		saturated zone	ļ
		•	  0.50		0.10	 	!
	l	SHITHK-SWEII	10.30	! [	1	 	1
Clarion	10	Somewhat limited	i	Somewhat limited	i	Not limited	i
	ļ	Frost action	0.50	! -	0.78	ļ	İ
			!	saturated zone	:		!
		 		Cutbanks cave	0.10	 	
Webster	5	  Very limited	i	  Very limited	i	  Very limited	i
	į	Frost action		•	1.00	Depth to	1.00
	ļ	! -	1.00	•	!	saturated zone	!
		saturated zone	!	!	0.10		!
	 	Shrink-swell 	0.50 	 		 	
L112A:	İ	İ	i	į	İ	İ	i
Webster	85	Very limited		Very limited		Very limited	1
	ļ	•	•		1.00	! -	1.00
		! -	1.00	!	10 10	saturated zone	
		saturated zone Shrink-swell	  0.50	Cutbanks cave	0.10 	I I	1
	i	i		i	i	i i	i

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit		d	:   Shallow excavati     	ons	Lawns and landscaping	
		Rating class and		Rating class and   limiting features			
L112A: Glencoe	         	Ponding Depth to saturated zone Frost action Low strength	1.00  1.00 	Ponding Depth to saturated zone Cutbanks cave	1.00  1.00 	Depth to saturated zone	    1.00  1.00 
Nicollet	   5     	  Very limited   Frost action   Depth to	    1.00  0.78	  Very limited   Depth to   saturated zone   Cutbanks cave	1.00	saturated zone	    0.78   
L113B: Reedslake	İ	Shrink-swell	0.50		0.78		         
Le Sueur	     	Frost action Depth to	1.00  0.78 	Depth to saturated zone Cutbanks cave	1.00	saturated zone	  0.78   
Reedslake, eroded	İ	Shrink-swell	0.50	•	0.78	 	       
Cordova	į	Frost action Depth to	1.00  1.00 	   Very limited   Depth to   saturated zone   Cutbanks cave	1.00	Depth to saturated zone	  1.00   
L114A: Hanlon, rarely flooded	     85     	Frost action	        0.50  0.40	•	        1.00  1.00	    Not limited   	
Coland, occasionally flooded	10   	Frost action Flooding Depth to saturated zone	1.00  1.00	saturated zone Flooding Cutbanks cave	1.00	saturated zone	    1.00    0.60
Minneopa, rarely flooded	   5       	•	    0.50  0.40 	•	    1.00  1.00 		    0.01   

Table 10b.--Building Site Development--Continued

	Pct. of	!	d	Shallow excavati	ons	Lawns and landsca	ping
	  map  unit	!		i I		i I	
			Value	Rating class and	Value	Rating class and	Value
	<u> </u>	limiting features	<u> </u>	limiting features	<u>i</u>	limiting features	<u>i</u>
T 11 E 3 .		 	!		!		
L115A: Brownton	l I 55	  Verv limited		  Very limited		  Very limited	
22011110011						Depth to	1.00
	İ	Shrink-swell	1.00	saturated zone	İ	saturated zone	İ
		Depth to	1.00	Too clayey	0.28		
		saturated zone	!	Cutbanks cave	0.10		
Lura	l I 35	  Very limited		  Very limited		  Very limited	
2424			:	:	:	Too clayey	1.00
	i	_	:		:	Ponding	1.00
	İ	saturated zone	į	saturated zone	į	Depth to	1.00
		Frost action	1.00	Too clayey	0.72	saturated zone	
	ļ	Shrink-swell	1.00	Cutbanks cave	0.10	<u> </u>	ļ
Marna	   10	  Very limited	!	  Very limited		  Very limited	
mariia	I 10		:	Depth to	:	Depth to	1 1.00
	 	!	11.00	:	1	saturated zone	1
	i	!	1.00		0.28	!	i
	i	saturated zone	:	!	0.10	j	i
			ļ.	ļ	İ	ļ	
L116A:			!		!		
Le Sueur	4:5 			Very limited   Depth to		Somewhat limited   Depth to	0.78
	l I	Depth to	0.78	!	:	saturated zone	10.76
	 	saturated zone	1	!	0.10	Sacuraced Zone	1
	i	Shrink-swell	0.50	!		İ	i
			!		!		ļ
Lerdal	40		:	Very limited		Somewhat limited	
	 		:	Depth to saturated zone	11.00	Depth to saturated zone	0.60
	 	!	1.00  0.60	!	0.12	!	-
	İ	saturated zone	!		0.10	!	i
	İ	İ	į	j	İ	j	İ
Mazaska	10	<u> </u>		Very limited		Very limited	ļ
			1		1.00	Depth to	1.00
		!	1.00			saturated zone	!
	l I	Depth to saturated zone	1	Cutbanks cave Too clayey	0.10	!	
	i		i			İ	i
Kilkenny	5	Very limited	•	Very limited		Somewhat limited	
		Frost action	:	:	1.00	Depth to	0.56
		Depth to	0.56	•		saturated zone	!
	 	saturated zone Shrink-swell	  0.50	Cutbanks cave	10.10	 	
	İ	biiiiik-bweii		! 	i	! 	
L117C2:	İ	İ	İ	İ	į	İ	į
Omsrud, eroded	65	!		Somewhat limited		Somewhat limited	
				!	0.10	! -	0.04
		Slope	0.04	Slope	0.04		
Omsrud	   15	  Somewhat limited	 	  Somewhat limited		  Somewhat limited	
		!	0.50		0.10	!	0.04
	i			!	0.04	!	i
	ļ		ļ		!		ļ
Terril	10			Somewhat limited	!	Not limited	ļ
		Frost action	0.50	Depth to	0.78		
	l I	 	1	saturated zone Cutbanks cave	0.10	 	
	!	! :	!	Cuchains cave	10.10	!	!

Table 10b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	f   streets p		Shallow excavations   		Lawns and landsca    - 	ping
			•	Rating class and   limiting features		Rating class and limiting features	Value
L117C2: Delft	     5   	   Very limited   Frost action   Depth to   saturated zone	      1.00  1.00	  Very limited   Depth to   saturated zone   Cutbanks cave	      1.00    0.10	  Very limited   Depth to   saturated zone	      1.00
Storden, eroded	     5 	Shrink-swell    Somewhat limited   Frost action   Slope	0.50      0.50  0.04	  Somewhat limited   Cutbanks cave   Slope	      0.10  0.04	    Somewhat limited   Slope 	      0.04
L118A: Rushriver, frequently flooded	     85       	  -   Very limited   Depth to   saturated zone   Frost action   Flooding	      1.00    1.00  1.00	  -  Very limited   Depth to   saturated zone   Cutbanks cave   Flooding	      1.00    1.00  0.80	  -  Very limited   Flooding   Depth to   saturated zone	      1.00  1.00
Houghton, frequently flooded	•	  Very limited   Depth to   saturated zone   Subsidence   Frost action   Flooding	  1.00    1.00  1.00  1.00	!	  1.00    1.00    0.80  0.10	  Very limited   Flooding   Content of   organic matter   Depth to   saturated zone	  1.00  1.00    1.00 
Klossner, frequently flooded	:	  Very limited   Depth to   saturated zone   Subsidence   Frost action   Flooding   Shrink-swell	  1.00    1.00  1.00  1.00  0.50	saturated zone Content of organic matter	  1.00    1.00    0.80  0.10	  Very limited   Flooding   Content of   organic matter   Depth to   saturated zone	  1.00  1.00    1.00 
Medo, frequently flooded	   5           	  Very limited   Depth to   saturated zone   Subsidence   Frost action   Flooding	    1.00    1.00  1.00  1.00	Content of	    1.00    1.00  1.00    0.80	  Very limited   Flooding   Content of   organic matter   Depth to   saturated zone	  1.00  1.00    1.00 
L119B: Angus	   80     	  Somewhat limited   Shrink-swell   Frost action	•	  Somewhat limited   Depth to   saturated zone   Cutbanks cave	    0.78    0.10	  Not limited     	       
Angus, eroded	   10       	  Somewhat limited   Shrink-swell   Frost action 	  0.50  0.50 		    0.78    0.10	  Not limited     	       

Table 10b.--Building Site Development--Continued

component name	Pct. of map	f   streets   p		   Shallow excavati   	ons	Lawns and landscaping		
	unit   	Rating class and		   Rating class and   limiting features				
L119B: Cordova	     5     	Frost action Depth to saturated zone	1.00	saturated zone Cutbanks cave	1.00	saturated zone	    1.00   	
Le Sueur	:	Frost action Depth to saturated zone	1.00  0.78	saturated zone Cutbanks cave	:	  Somewhat limited   Depth to   saturated zone   	  0.78     	
L120A: Good Thunder	   80       	Frost action		Depth to   saturated zone   Too clayey	1.00			
Ocheyedan	   10     	!	:	saturated zone	0.78	İ	       	
Minnetonka	   10       	Frost action Shrink-swell	1.00  1.00  1.00	Depth to saturated zone Too clayey	1.00	!	  1.00     	
L121B: Clarion	   80     	Shrink-swell		saturated zone	0.78	İ	       	
Guckeen	   15     	Frost action	1.00  0.78	saturated zone	1.00	  Somewhat limited   Depth to   saturated zone 	  0.78   	
Marna	   5       	Shrink-swell	  1.00  1.00  1.00	saturated zone Too clayey	:	  Very limited   Depth to   saturated zone 	  1.00   	
L122B: Reedslake	     55     	Shrink-swell	      0.50  0.50	saturated zone	    0.78    0.10	  Not limited     		
Estherville	   25   	  Not limited   	     	  Very limited   Cutbanks cave 	    1.00 	  Somewhat limited   Droughty 	    0.12 	

Table 10b.--Building Site Development--Continued

	Pct. of map	streets	d	Shallow excavati   	ons	Lawns and landsca	ping
	unit   		•	   Rating class and   limiting features		   Rating class and   limiting features	Value
L122B: Le Sueur	     10   	Frost action	1.00  0.78	saturated zone	:	saturated zone	      0.78 
Cordova	į	  Very limited   Frost action   Depth to   saturated zone	1.00  1.00 	  Very limited   Depth to   saturated zone   Cutbanks cave		saturated zone	      1.00
Lowlein	     5   	  Somewhat limited	0.50      0.50 	  Very limited   Cutbanks cave	      1.00  1.00	!	       
L123A: Belleville	     85     	Frost action	1.00	Depth to saturated zone	1.00	saturated zone	      1.00 
Granby	   15       	Ponding Depth to saturated zone	1.00  1.00 	Ponding Depth to saturated zone	1.00  1.00 	Depth to saturated zone	  1.00  1.00    0.13
L124A:		 		 		 	
Glencoe mucky clay loam		Ponding Depth to saturated zone Frost action Low strength	1.00  1.00 	Ponding Depth to saturated zone Cutbanks cave	1.00	Depth to saturated zone	  1.00  1.00     
Canisteo	   10     	  Very limited   Frost action   Depth to   saturated zone	  1.00  1.00	  Very limited   Depth to   saturated zone   Cutbanks cave	    1.00    0.10	  Very limited   Depth to   saturated zone 	    1.00 
Glencoe clay loam	   5         	   Very limited   Ponding   Depth to   saturated zone   Frost action   Low strength   Shrink-swell	  1.00  1.00    1.00  1.00  0.50		  1.00  1.00    0.10	· -	  1.00  1.00     
L125A: Hanlon, rarely flooded	       60     	    Somewhat limited   Frost action   Flooding	        0.50  0.40		        1.00  1.00	      Not limited     	             

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit	streets	d	Shallow excavati	ons	Lawns and landscaping     	
	unite   	Rating class and	,	Rating class and limiting features			Value
L125A: Coland, occasionally flooded		Frost action Flooding Depth to saturated zone	1.00  1.00  1.00	saturated zone	        1.00    0.60  0.10	saturated zone	      1.00    0.60
Minneopa, rarely flooded	   15   	Frost action	    0.50  0.40	!	    1.00  1.00	!	    0.01 
L126A: Coland, occasionally flooded		Frost action Flooding Depth to saturated zone	:	saturated zone	        1.00    0.60  0.10	saturated zone	      1.00    0.60
Minneopa, occasionally flooded	       10   	Frost action	      0.50  0.40	!	      1.00  1.00	!	      0.01
Havelock, occasionally flooded	       5     	Flooding   Shrink-swell	      1.00  1.00  1.00	saturated zone	      1.00    0.60  0.10	saturated zone	      1.00    0.60
Spillville, occasionally flooded	       5       	Depth to saturated zone Shrink-swell	      1.00  0.78    0.50  0.50	saturated zone Flooding Cutbanks cave	        1.00    0.60  0.10	saturated zone	      0.78    0.60
L127A: Coland, frequently flooded	     80       	Frost action Flooding Depth to saturated zone	    1.00  1.00  1.00    0.50	saturated zone	      1.00    0.80  0.10	Depth to	    1.00  1.00   

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit	streets	streets		Shallow excavations   		Lawns and landscaping     	
	 			Rating class and limiting features	•	Rating class and limiting features	Value	
L127A: Minneopa, occasionally flooded	         10   	      Somewhat limited   Frost action   Flooding		Very limited Cutbanks cave Depth to saturated zone	          1.00  1.00	      Not limited   		
Havelock, frequently flooded	•	Frost action   Flooding   Shrink-swell	1.00  1.00  1.00	  Very limited   Depth to   saturated zone   Flooding   Cutbanks cave	    1.00    0.80  0.10	Depth to saturated zone	  1.00  1.00   	
Spillville, occasionally flooded	   5   5       	  Very limited   Flooding   Depth to   saturated zone   Shrink-swell   Frost action	1.00	Flooding   Cutbanks cave	:	  Somewhat limited   Depth to   saturated zone   Flooding	    0.78    0.60	
L128A: Mazaska	   60       	Frost action   Shrink-swell	:	!	:	  Very limited   Depth to   saturated zone 	    1.00   	
Rolfe	         	Ponding Depth to saturated zone Frost action Shrink-swell	1.00  1.00    1.00  1.00	Depth to   saturated zone   Cutbanks cave	1.00  1.00      0.10  0.02	Depth to saturated zone	  1.00  1.00     	
	       	Frost action   Shrink-swell   Depth to	1.00  1.00  0.60	Depth to saturated zone Too clayey	1.00    0.12  0.10	saturated zone	0.60	
L129B: Terril	   90       	  Somewhat limited   Frost action   		•	0.78	İ	         	
Delft		Frost action   Depth to   saturated zone	1.00	Depth to saturated zone Cutbanks cave	1.00	saturated zone	  1.00     	

Table 10b.--Building Site Development--Continued

component name	Pct. of map unit	streets	đ	Shallow excavati     	ons	Lawns and landscaping	
	 	Rating class and limiting features		Rating class and limiting features		Rating class and limiting features	Value
L129B: Hamel	     5     	Depth to saturated zone	    1.00  1.00    0.50	saturated zone Cutbanks cave	    1.00    0.10	    Very limited   Depth to   saturated zone 	    1.00 
L130A: Okoboji mucky silty clay loam		      Very limited	;       	        Very limited	     	        Very limited	     
	       	Ponding   Depth to   saturated zone   Frost action   Shrink-swell	1.00  1.00    1.00  1.00	Depth to saturated zone Cutbanks cave	1.00  1.00      0.10	Depth to saturated zone	1.00  1.00   
Okoboji silty clay loam	   15           	Ponding Depth to saturated zone Frost action	    1.00  1.00    1.00  1.00	Depth to saturated zone Too clayey Cutbanks cave	   1.00  1.00       0.12   0.10	Depth to saturated zone	    1.00  1.00 
Brownton	   5     	Shrink-swell	1.00  1.00  1.00	saturated zone Too clayey	  1.00    0.28  0.10	saturated zone	    1.00   
Spicer	   5     	Depth to saturated zone	  1.00  1.00    0.50	saturated zone Cutbanks cave	•	  Very limited   Depth to   saturated zone 	  1.00   
M-W: Water, miscellaneous	    100 	    Not rated 	     	    Not rated 	     	    Not rated 	     
U3B: Udorthents (cut and fill land)		    Not rated 	;     	      Not rated 	;     	      Not rated	     
W: Water	    100	    Not rated 	     	    Not rated 	     	    Not rated 	     

## Table 11a.--Agricultural Waste Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

component name	Pct. of map	manure and food		Application of sewage sludg	e	Disposal of wastewater by irrigation	ı
	unit   	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value
GP:		 	 	 		 	
Pits, gravel	80	  Not rated 		  Not rated 		  Not rated	į
Udipsamments	20	  Not rated	 	  Not rated		  Not rated	
L5A:	 	 	 	 	 	 	
Delft, overwash	50   	• -	    1.00	  Very limited   Depth to   saturated zone	  1.00	Very limited   Depth to   saturated zone	1.00
	   	Saturated zone   Leaching   limitation	  0.70 	Restricted   Restricted   Permeability	  0.22 	Restricted zone   Restricted   permeability	0.22
	i I	Restricted permeability	0.30	 	 	 	j I
Delft	   40 	  Very limited   Depth to   saturated zone	    1.00	  Very limited   Depth to   saturated zone	    1.00	  Very limited   Depth to   saturated zone	    1.00
	;       	Leaching   limitation   Restricted   permeability	0.70    0.30	Restricted permeability	0.22       	Restricted permeability	0.22
Glencoe	   5       	!	  1.00    1.00  0.70	saturated zone	  1.00    1.00 	   Very limited   Depth to   saturated zone   Ponding 	  1.00    1.00 
Terril	   5       	  Somewhat limited   Depth to   saturated zone   	    0.05     	  Somewhat limited   Depth to   saturated zone   	    0.05     	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
L13A:	 	 	 	 	 	 	
Klossner, drained	   80             	Depth to saturated zone Low adsorption Ponding	1.00    1.00	saturated zone Low adsorption Ponding	1.00    1.00	saturated zone Low adsorption Ponding	  1.00    1.00  1.00  0.21
Mineral soil, drained	   15	  Very limited	 	  Very limited		  Very limited	
dramed	13	Depth to saturated zone Ponding		Depth to saturated zone	•	Depth to saturated zone	  1.00    1.00 

Table 11a.--Agricultural Waste Management--Continued

Map symbol and component name	  Pct.   of  map  unit	manure and food		Application of sewage sludg	e	Disposal of wastewater by irrigation	
	İ 	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L13A: Houghton, drained	     5	    Very limited	   	    Very limited	   	    Very limited	   
	           	saturated zone Low adsorption Ponding Leaching limitation	1.00    1.00  1.00  0.90    0.08	Depth to saturated zone Low adsorption Ponding Too acid	1.00    1.00  1.00  0.31 	Depth to saturated zone Low adsorption Ponding Too acid	1.00    1.00  1.00  0.31 
L14A: Houghton, drained	   80             	Depth to saturated zone Low adsorption Ponding Leaching limitation	  1.00  1.00  1.00  1.00  0.90 	   Very limited   Depth to   saturated zone   Low adsorption   Ponding   Too acid 	  1.00    1.00  1.00  0.31 	   Very limited   Depth to   saturated zone   Low adsorption   Ponding   Too acid	  1.00    1.00  1.00  0.31 
Klossner, drained	10               	Depth to saturated zone Low adsorption Ponding Leaching limitation	  1.00    1.00  1.00  0.90 	Very limited   Depth to   saturated zone   Low adsorption   Ponding   Too acid	  1.00    1.00  1.00  0.21 	Very limited   Depth to   saturated zone   Low adsorption   Ponding   Too acid	  1.00    1.00  1.00  0.21 
Mineral soil, drained	   10           	saturated zone Ponding	    1.00    1.00  0.70	  Very limited   Depth to   saturated zone   Ponding 	    1.00    1.00 	  Very limited   Depth to   saturated zone   Ponding	    1.00    1.00 
L15A: Klossner, ponded	   30           	Ponding Depth to saturated zone Low adsorption	    1.00  1.00    1.00  0.90	  Very limited   Ponding   Depth to   saturated zone   Low adsorption	    1.00  1.00    1.00	   Very limited   Ponding   Depth to   saturated zone   Low adsorption	  1.00  1.00    1.00
Okoboji, ponded	   30           	Ponding Depth to saturated zone Leaching limitation	  1.00  1.00    0.50    0.30	Very limited Ponding Depth to saturated zone Restricted permeability	  1.00  1.00    0.22	  Very limited   Ponding   Depth to   saturated zone   Restricted   permeability	  1.00  1.00    0.22
Glencoe, ponded	   30         	Ponding Depth to saturated zone	    1.00  1.00    0.70	  Very limited   Ponding   Depth to   saturated zone 	    1.00  1.00     	  Very limited   Ponding   Depth to   saturated zone 	  1.00  1.00     

Table 11a.--Agricultural Waste Management--Continued

Map symbol and component name	Pct.  Application o   of   manure and foo  map   processing was  unit		-	Application   of sewage sludg   	e	Disposal of wastewater by irrigation	
	   	Rating class and limiting features	Value	Rating class and   limiting features	Value	Rating class and limiting features	Value
L15A: Houghton, ponded	   10   10       	  Very limited   Ponding   Depth to   saturated zone   Low adsorption   Leaching   limitation	    1.00  1.00    1.00  0.90	saturated zone	    1.00  1.00    1.00 	Very limited Ponding Depth to saturated zone Low adsorption	    1.00  1.00    1.00
L16A: Muskego, ponded	   30               	Very limited   Ponding   Depth to   saturated zone   Low adsorption   Restricted   permeability   Leaching   limitation	  1.00  1.00    1.00  1.00    0.90	Depth to saturated zone	   1.00   1.00   1.00   1.00   1.00	Very limited   Ponding   Depth to   saturated zone   Low adsorption   Restricted   permeability	  1.00  1.00    1.00  1.00
Blue Earth, ponded	30         	Very limited   Ponding   Depth to   saturated zone   Leaching   limitation	  1.00  1.00    0.70	Very limited   Ponding   Depth to   saturated zone	  1.00  1.00 	Very limited	  1.00  1.00 
Houghton, ponded	   30         	  Very limited   Ponding   Depth to   saturated zone   Low adsorption   Leaching   limitation	  1.00  1.00    1.00  0.90	Depth to saturated zone	  1.00  1.00    1.00	  Very limited   Ponding   Depth to   saturated zone   Low adsorption	  1.00  1.00    1.00
Klossner, ponded	   10           	   Very limited   Ponding   Depth to   saturated zone   Low adsorption   Leaching   limitation	  1.00  1.00    1.00  0.90	Depth to saturated zone	  1.00  1.00    1.00 	  Very limited   Ponding   Depth to   saturated zone   Low adsorption 	  1.00  1.00    1.00 
L26B: Shorewood	   90           	  Very limited   Depth to   saturated zone   Restricted   permeability 	    1.00    0.89     	  Very limited   Depth to   saturated zone   Restricted   permeability 	    1.00    0.78     	Very limited   Depth to   saturated zone   Restricted   permeability   Too steep for   surface   application	  1.00    0.78    0.08
Good Thunder	   5       	  Somewhat limited   Depth to   saturated zone   Restricted   permeability	  0.87    0.74 	  Somewhat limited   Depth to   saturated zone   Restricted   permeability	  0.87    0.60 	  Somewhat limited   Depth to   saturated zone   Restricted   permeability	  0.87    0.60 

Table 11a.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map	manure and food processing wast	-	Application of sewage sludg	e	Disposal of wastewater by irrigation	1
	unit   		Value	   Rating class and   limiting features	•	   Rating class and   limiting features	Value
L26B: Minnetonka	     5	    Very limited	:	    Very limited	•	    Very limited	
	   	Depth to   saturated zone   Restricted	1.00    1.00	Depth to saturated zone Restricted	1.00    1.00	Depth to saturated zone Restricted	1.00    1.00
	     	permeability Leaching limitation Too acid	  0.50    0.02	permeability Too acid	  0.07 	permeability Too acid	  0.07 
L36A:	į		į		į	İ	į
Hamel, overwash	   50     	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.41	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.31	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.31
Hamel	   43 		    1.00	  Very limited	    1.00	  Very limited	    1.00
	;       	Leaching limitation Restricted permeability	0.70    0.41	Restricted permeability	0.31     	Restricted permeability	0.31
Terril	   5   	  Somewhat limited   Depth to   saturated zone	  0.05	  Somewhat limited   Depth to   saturated zone	  0.05	  Somewhat limited   Depth to   saturated zone	0.05
Glencoe	   2   	  Very limited   Depth to   saturated zone	    1.00    1.00	saturated zone	    1.00    1.00	saturated zone	1.00
	   	Ponding Leaching limitation	0.70	Ponding   		Ponding   	1.00   
L40B:	 	 	 	 	 	 	
Angus	45     	Somewhat limited   Depth to   saturated zone	  0.05 	Somewhat limited   Depth to   saturated zone	  0.05 	Somewhat limited   Too steep for   surface   application	  0.08 
	 		<u> </u> 	 	<u> </u> 	Depth to   saturated zone	0.05
Kilkenny	   40   		•	  Very limited   Depth to   saturated zone	•	  Very limited   Depth to   saturated zone	    1.00
	;     	Restricted permeability Too acid	į	Restricted permeability Too acid	į	Restricted permeability Too acid	0.31
Lerdal	     10	  Very limited	i I	    Very limited   Depth to	j I	    Very limited   Depth to	
	   	saturated zone Restricted	į	saturated zone	į	saturated zone	1.00
		permeability Too acid	0.03	permeability Too acid	0.14	permeability Too acid	0.14

Table 11a.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map unit	manure and food processing wast		Application of sewage sludg	e	Disposal of wastewater by irrigation	ı
	 	Rating class and limiting features	Value 	Rating class and limiting features	Value 	Rating class and limiting features	Value
L40B: Mazaska	   5         	saturated zone Restricted permeability	    1.00    1.00    0.50	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00   	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00   
L41C2: Lester, eroded	   45           	'	    0.04       	  Somewhat limited   Slope       	    0.04       	  Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      0.22
Kilkenny, eroded	   40                 	Depth to saturated zone Restricted permeability Too acid	  0.86    0.41    0.05  0.04 	saturated zone Restricted permeability Too acid	  0.86    0.31  0.21  0.04 	Very limited   Too steep for   surface   application   Depth to   saturated zone   Restricted   permeability   Too steep for   sprinkler   application   Too acid	  1.00    0.86    0.31    0.22
Terril	   10   	'	    0.05	  Somewhat limited   Depth to   saturated zone	    0.05	  Somewhat limited   Depth to   saturated zone	    0.05
Derrynane	   5         	saturated zone Restricted permeability	  1.00    0.74    0.50	saturated zone Restricted permeability	  1.00    0.60   	  Very limited   Depth to   saturated zone   Restricted   permeability 	  1.00    0.60 
L41D2: Lester, eroded	   45           	• -	    1.00           	  Very limited   Slope         	    1.00           	  Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00    1.00 

Table 11a.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map	manure and food	-	Application of sewage sludg	e	Disposal of wastewater by irrigation	L
	unit   		Value	   Rating class and   limiting features	•	   Rating class and   limiting features	Value
L41D2: Kilkenny, eroded	     35   	    Very limited   Slope   Depth to   saturated zone	      1.00  0.86	    Very limited   Slope   Depth to   saturated zone	      1.00  0.86	  Very limited   Too steep for   surface   application	      1.00
	     	Restricted 2016   Restricted   permeability   Too acid	0.41	Restricted permeability	0.31	Too steep for sprinkler application Depth to	  1.00        0.86
	     	       		   	     	saturated zone   Restricted   permeability   Too acid	  0.31    0.21
Terril	   10   	  Somewhat limited   Depth to   saturated zone	    0.05	  Somewhat limited   Depth to   saturated zone	    0.05	    Somewhat limited	0.05
Derrynane	   5         	   Very limited   Depth to   saturated zone   Restricted   permeability   Leaching   limitation	  1.00    0.74    0.50	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.60   	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.60   
Ridgeton	   5         	  Somewhat limited   Slope       	  0.16         	  Somewhat limited   Slope         	  0.16         	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      0.40
L41E: Lester	   45       	  Very limited   Slope     	    1.00     	  Very limited   Slope       	    1.00     	  Very limited   Too steep for   surface   application   Too steep for   sprinkler	  1.00      1.00
Kilkenny	   40       	  Very limited   Slope   Depth to   saturated zone   Restricted	    1.00  0.86    0.41	Depth to saturated zone	    1.00  0.86    0.31	surface application	    1.00      1.00
	       	permeability Too acid	  0.05     	permeability Too acid	  0.21     	sprinkler application Depth to saturated zone Restricted permeability Too acid	  0.86    0.31 
Terril	   5   5	  Somewhat limited   Depth to   saturated zone	      0.05 	  Somewhat limited   Depth to   saturated zone	      0.05 	    Somewhat limited	0.21      0.05

Table 11a.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map unit	manure and food processing wast	-	Application   of sewage sludg 	e	Disposal of wastewater by irrigation	ı
	   	'	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
- 41 -							
L41E: Derrynane	   5 	  Very limited   Depth to   saturated zone	    1.00	  Very limited   Depth to   saturated zone	1 1.00	  Very limited   Depth to   saturated zone	1   1.00
	     	Restricted   Point   Restricted   Permeability   Leaching   limitation	  0.74    0.50	Restricted   permeability	  0.60   	Restricted   Permeability	  0.60   
Ridgeton	   5           	  Somewhat limited   Slope       	  0.96           	  Somewhat limited   Slope       	  0.96         	   Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      0.98   
L48A:	İ	İ	İ	İ	İ	İ	į
Derrynane, overwash	50   	Very limited   Depth to   saturated zone	  1.00	Very limited   Depth to   saturated zone	  1.00	Very limited   Depth to   saturated zone	1.00
	     	Restricted permeability Leaching limitation	0.74    0.50	Restricted   permeability	0.60     	Restricted   permeability	0.60
Derrynane	   40 	  Very limited   Depth to   saturated zone	    1.00	  Very limited   Depth to   saturated zone	    1.00	  Very limited   Depth to   saturated zone	    1.00
	     	Restricted permeability Leaching limitation	0.74    0.50	!	0.60     	Restricted   permeability	0.60
Glencoe	   5 	  Very limited   Depth to	    1.00		1.00		1   1.00
	     	saturated zone Ponding Leaching limitation	  1.00  0.70 	saturated zone Ponding	  1.00   	saturated zone Ponding	  1.00   
Terril	   5     	  Somewhat limited   Depth to   saturated zone 	    0.05   	  Somewhat limited   Depth to   saturated zone 	    0.05   	  Somewhat limited   Too steep for   surface   application	  0.08   
	   	   		 	   	Depth to saturated zone	0.05
L49A: Klossner, surface drained	       65	      Very limited	     	      Very limited	     	      Very limited	     
	 	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	     	Ponding	1.00  1.00  0.90	Ponding	1.00  1.00 	<u> </u>	1.00  1.00 

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	manure and food processing wast	-	Application   of sewage sludg 	e	Disposal of wastewater by irrigation	1
	   	'		Rating class and   limiting features	,	Rating class and   limiting features	Value
	ļ	<u> </u>		<u> </u>			ļ
L49A: Klossner, drained	   20 	Depth to	    1.00		    1.00	! -	1.00
		saturated zone Low adsorption	  1.00	saturated zone Low adsorption	  1.00	saturated zone Low adsorption	11.00
		· -	1.00	!	11.00	Ponding	11.00
	     	Leaching limitation Too acid	0.90      0.05	Too acid	0.21		0.21
	i	100 actu		! 	i	! 	i
Mineral soil, drained	     15	    Very limited	 	    Very limited	; [	    Very limited	i I
	 	Depth to saturated zone	1.00 	Depth to saturated zone	1.00 	Depth to saturated zone	1.00
	 	Ponding   Leaching   limitation	1.00	Ponding	1.00	Ponding	1.00
L50A:	   	limitation   	   	   	   	   	   
Houghton, surface		ļ	ļ	ļ	ļ	[	1
drained	40	! -	:	Very limited	  1.00	Very limited	
	l I	Depth to saturated zone	1.00	Depth to saturated zone	1	Depth to saturated zone	1.00
	i	!	1.00	!	1.00	Low adsorption	1.00
	;   	!	1.00  0.90 	Ponding	1.00   	Ponding	1.00   
Marks and and form							
Muskego, surface drained	l   40	  Very limited		  Very limited		  Very limited	1
		Depth to	1.00	! -	1.00	!	1.00
	j	saturated zone	İ	saturated zone	j	saturated zone	İ
		Low adsorption	1.00	Low adsorption	1.00	Low adsorption	1.00
	ļ	Restricted	1.00	!	1.00	Restricted	1.00
		permeability   Ponding	1.00	permeability Ponding	  1.00	permeability Ponding	11.00
	   	Leaching   Limitation	0.90			Foliding 	
Klossner, drained	   10	  Verv limited	 	  Very limited	 	  Very limited	 
,	i	Depth to	1.00	! -	1.00	!	1.00
	ĺ	saturated zone	Ì	saturated zone	ĺ	saturated zone	İ
		•	1.00	•	1.00	Low adsorption	1.00
	ļ	· -	1.00		1.00	Ponding	1.00
	 	Leaching limitation	0.90 	Too acid	0.21 	Too acid 	0.21
	į	Too acid	0.05	İ	į		į
Mineral soil,	 	 	 	 	 	 	
drained	10	Very limited	i	  Very limited	İ	  Very limited	i
		Depth to	1.00	•	1.00	:	1.00
		saturated zone		saturated zone		saturated zone	
	ļ	Ponding	1.00	Ponding	1.00	Ponding	1.00
	 	Leaching limitation	0.70 	 	 	 	
				1 		! 	i

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	manure and food processing wast		Application of sewage sludg	e	Disposal of wastewater by irrigation	ı
	   		Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L51C2: Gladek, eroded	     80         	!	      0.04       	    Somewhat limited   Slope       	      0.04       	  Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	      1.00      0.22 
Barrington	   10         	!	    0.87       	  Somewhat limited   Depth to   saturated zone   	    0.87       	Somewhat limited   Depth to   saturated zone   Too steep for   surface   application	  0.87    0.08 
Lester, eroded	   5           	<u>-</u>	  0.04  0.01       	   Somewhat limited   Slope   Too acid     	  0.04  0.01     	Very limited   Too steep for surface   application   Too steep for sprinkler   application   Too acid	  1.00      0.22      0.01
Madelia	   5     	saturated zone	  1.00    0.70	   Very limited   Depth to   saturated zone   	  1.00     	Very limited   Depth to   saturated zone 	  1.00   
L56A:	l I	 	 	 	l I	 	
Muskego, frequently flooded	:	Depth to saturated zone Flooding Low adsorption Restricted permeability	   1.00   1.00   1.00   1.00   1.00	saturated zone	   1.00   1.00   1.00   1.00   1.00	   Very limited   Depth to   saturated zone   Low adsorption   Flooding   Restricted   permeability   Ponding	   1.00   1.00   1.00   1.00   1.00
Klossner, frequently			į		į		į
flooded	45           	Depth to saturated zone Flooding Low adsorption Ponding	  1.00    1.00  1.00  1.00  0.40	saturated zone Flooding Low adsorption Ponding	  1.00    1.00  1.00  1.00	Very limited   Depth to   saturated zone   Low adsorption   Flooding   Ponding	  1.00    1.00  1.00  1.00
Suckercreek, frequently flooded	   10         	Depth to saturated zone Flooding Runoff	  1.00    1.00  0.40  0.01	saturated zone Flooding Filtering	  1.00    1.00  0.01	  Very limited   Depth to   saturated zone   Flooding   Filtering   capacity	  1.00    1.00  0.01 

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	manure and food processing wast	-	Application of sewage sludge		Disposal of wastewater by irrigation	
	 		Value	Rating class and limiting features	Value	Rating class and limiting features	Value
			Ī		İ		i
L57A: Medo, drained	   80 	  Not rated 	     	  Not rated 	   	  Not rated 	 
Mineral soil,	j	İ	į	İ	į	İ	İ
drained	15	Very limited		Very limited		Very limited	
		Filtering	1.00	Filtering	1.00	Filtering	1.00
		capacity		capacity		capacity	
		Depth to	1.00	: -	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		!	1.00	Ponding	1.00	Ponding	1.00
	l I	Leaching   limitation	0.70 	 	 	 	
	_		į		į		į
Houghton, drained	5 	Very limited	  1.00	Very limited	:	Very limited	1 00
	l I	Depth to saturated zone	1	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	l I	!	1 1.00	!	1	Low adsorption	1
	l I		1.00	-	11.00	Ponding	11.00
	İ	Leaching	0.90	Too acid	0.31	Too acid	0.31
	İ	limitation	i	<u> </u>	i	:	i
	ĺ	Too acid	0.08	į	į	İ	į
L63A:	 	 	 	 	 	 	
Klossner	85	  Very limited	i	  Very limited	i	  Very limited	i
	İ	Depth to	1.00	! -	1.00	!	1.00
	İ	saturated zone	İ	saturated zone	İ	saturated zone	İ
	ĺ	Low adsorption	1.00	Low adsorption	1.00	Low adsorption	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Leaching	0.90				
	 	limitation	 	 	 	 	
Lura	10	  Very limited	İ	  Very limited	İ	  Very limited	İ
		Restricted	1.00	Restricted	1.00	Restricted	1.00
		permeability		permeability		permeability	
		<u> </u>	1.00	! -	1.00	Depth to	1.00
	 	saturated zone		saturated zone		saturated zone	11 00
	l I	Ponding Leaching	1.00  0.50	Ponding	1.00	Ponding	1.00
	 	limitation		 		 	
Brownton	   5	  Very limited	 	  Very limited	 	  Very limited	
BI OWN COM			1.00		1.00		1.00
	İ	permeability		permeability		permeability	
	İ	Depth to	1.00	•	1.00	Depth to	1.00
	İ	saturated zone	İ	saturated zone	İ	saturated zone	i
	ĺ	Leaching	0.50	İ	ĺ		ĺ
		limitation					
L64A:	 	 		 		 	
Tadkee	50	Very limited		Very limited		Very limited	
		Filtering	1.00		1.00	Filtering	1.00
		capacity		capacity		capacity	ļ
		<u> </u>	1.00	! -	1.00	:	1.00
		saturated zone		saturated zone	I	saturated zone	!
		Leaching	0.70		I	  -	1
		limitation					

Table 11a.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map unit	manure and food processing wast		Application of sewage sludg	e	Disposal of wastewater by irrigation	ı
	 	Rating class and limiting features	Value 	Rating class and limiting features	Value	Rating class and limiting features	Value
							!
L64A: Tadkee, depressional	   36 	Filtering	    1.00	  Very limited   Filtering	    1.00	  Very limited   Filtering	1.00
	   	capacity Depth to saturated zone	  1.00 	capacity Depth to saturated zone	  1.00 	capacity Depth to saturated zone	1.00
	   	!	1.00  0.70 	Ponding   	1.00   	Ponding   	1.00   
Better drained soil	   8	  Very limited	 	  Very limited	 	  Very limited	
	 	Filtering capacity	1.00 	Filtering capacity	1.00	Filtering capacity	1.00
	 	Depth to saturated zone	0.87 	Depth to saturated zone	0.87	Depth to saturated zone	0.87
Granby	   4 	  Very limited   Filtering	1.00	!	1.00	  Very limited   Filtering	1.00
	   	capacity Depth to saturated zone	  1.00 	capacity Depth to saturated zone	  1.00	capacity Depth to saturated zone	  1.00
	i	Ponding	1.00	Ponding	1.00	Ponding	1.00
	   	Leaching   limitation   Droughty	0.90    0.23	Droughty   	0.23   	Droughty   	0.23   
Less sandy soil	   2 	  Very limited   Filtering	    1.00	  Very limited   Filtering	    1.00	  Very limited   Filtering	    1.00
	 	capacity Depth to	    1.00	capacity Depth to	1.00	capacity Depth to	1.00
	   	saturated zone Leaching limitation	  0.70 	saturated zone	   	saturated zone	     
L73A:	 	 	 	 	 	 	
Blue Earth	   80 	  Very limited   Depth to	    1.00	  Very limited   Depth to	  1.00	  Very limited   Depth to	  1.00
	 	!	  1.00	saturated zone	1.00	saturated zone	1.00
	 	Leaching   limitation	0.70 	   	 	   	
Belleville	   10 	  Very limited   Filtering	    1.00	  Very limited   Filtering	1.00	  Very limited   Filtering	1.00
	 	<u>.                                      </u>	  1.00	<u>.                                      </u>	1.00	! -	1.00
	 	saturated zone	0.70	saturated zone   Restricted	0.31	saturated zone   Restricted	0.31
	   	limitation Restricted permeability	  0.41 	permeability   	   	permeability   	
Canisteo	   10 		    1.00	  Very limited   Depth to	    1.00	  Very limited   Depth to	    1.00
	i I	saturated zone	    0.70	saturated zone	i   	saturated zone	j 
		limitation		!		!	1

Table 11a.--Agricultural Waste Management--Continued

component name	  Pct.   of  map  unit	manure and food processing waste	-	   Application   of sewage sludg   	e	   Disposal of   wastewater   by irrigation	
	 	Rating class and limiting features		Rating class and limiting features	•	Rating class and limiting features	Value
L74A: Estherville	     87   	Filtering capacity	      1.00    0.70	capacity	      1.00    0.70	  Very limited   Filtering   capacity   Droughty	      1.00    0.70
Hawick	   10         	Filtering capacity Droughty	!	capacity Droughty	    1.00    0.94   	capacity	    1.00    0.94   
Biscay	           	saturated zone Filtering capacity	  1.00    1.00    0.70	saturated zone	  1.00    1.00   	Very limited   Depth to   saturated zone   Filtering   capacity	  1.00    1.00   
L75B: Barrington	   85         		      0.87     	  Somewhat limited   Depth to   saturated zone   	    0.87     	Somewhat limited   Depth to   saturated zone   Too steep for   surface   application	    0.87    0.08
Gladek	   10           	•	  0.04         	  Somewhat limited   Slope       	  0.04       	   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00        0.22
Madelia	   5       	saturated zone	    1.00    0.70 	  Very limited   Depth to   saturated zone   	    1.00       	  Very limited   Depth to   saturated zone   	 
L76B: Dickinson	   80   	Filtering capacity	    1.00    0.01	capacity	    1.00    0.01	capacity Too steep for	    1.00    0.08
Litchfield	         13	_	          1.00	        Very limited   Filtering	          1.00	surface application Too acid Very limited Filtering	    0.01      1.00
	         	capacity Depth to saturated zone	İ	capacity Depth to saturated zone	į	capacity Depth to saturated zone	1.00    1.00    0.07

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	manure and food processing wast		Application   of sewage sludg 	e	Disposal of wastewater by irrigation	ı
	   		Value	Rating class and   limiting features		Rating class and limiting features	Value
L76B: Darfur	     5     	saturated zone	      1.00    0.70	  Very limited   Depth to   saturated zone 	      1.00   	  Very limited   Depth to   saturated zone 	      1.00   
Clarion	   2         	  Somewhat limited   Depth to   saturated zone   	    0.05       	  Somewhat limited   Depth to   saturated zone   	  0.05       		  0.08      0.05
L77A: Brownton	   75           	Restricted permeability Depth to saturated zone	    1.00    1.00    0.50	permeability	    1.00    1.00   	  Very limited   Restricted   permeability   Depth to   saturated zone	  1.00    1.00 
Marna	   15         	Depth to saturated zone Restricted permeability	  1.00    1.00    0.50	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    1.00 	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    1.00
Lura	   10             	Restricted permeability Depth to saturated zone Ponding	  1.00    1.00    1.00  0.50	permeability Depth to saturated zone	  1.00    1.00    1.00	permeability Depth to saturated zone	  1.00    1.00    1.00
L78A: Canisteo	   65       	Depth to saturated zone	    1.00    0.70	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	    1.00   
Crippin	   10   		    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	1.00
Glencoe	   10           	Depth to saturated zone Ponding	    1.00    1.00  0.70	saturated zone Ponding	    1.00    1.00   	saturated zone	  1.00    1.00 

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	unii c   			Rating class and limiting features		Rating class and   limiting features	Value
L78A: Canisteo, depressional	       5	-	        1.00	! -	      1.00	! -	        1.00
	   	saturated zone   Leaching   limitation	  0.70   	saturated zone     	     	saturated zone     	     
Harps	5       	saturated zone	  1.00    0.70	Very limited   Depth to   saturated zone	1	Very limited   Depth to   saturated zone	  1.00   
Webster	5       	saturated zone	  1.00    0.70 	Very limited   Depth to   saturated zone	  1.00     	   Very limited   Depth to   saturated zone   	  1.00     
L79B: Clarion	   65       	  Somewhat limited   Depth to   saturated zone 	•	  Somewhat limited   Depth to   saturated zone   	  0.05     	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
Clarion, eroded	   25       		  0.05       	  Somewhat limited   Depth to   saturated zone   	  0.05       	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
Nicollet	     	Very limited Depth to saturated zone	  1.00 	  Very limited   Depth to   saturated zone	  1.00 	  Very limited   Depth to   saturated zone	  1.00 
Webster	2	saturated zone		Very limited   Depth to   saturated zone	•	Very limited   Depth to   saturated zone	  1.00     
L80C2: Lester, eroded	   75     	Slope	  0.04  0.01 		  0.04  0.01 		  1.00        0.22
	     	 	       	     	     	sprinkler   application   Too acid	    0.01
Terril	10       		  0.05     	Somewhat limited   Depth to   saturated zone 	  0.05   	Somewhat limited   Too steep for   surface   application   Depth to	  0.32      0.05

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	manure and food		Application   of sewage sludg 	e	Disposal of wastewater by irrigation	ı
	   	'	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L80C2: Hamel	     5   	saturated zone	      1.00    0.70	  Very limited   Depth to   saturated zone   Restricted	      1.00    0.31	  Very limited   Depth to   saturated zone   Restricted	      1.00    0.31
Reedslake	         5	limitation   Restricted   permeability      Somewhat limited		permeability          Somewhat limited		permeability          Somewhat limited	     
	       	Depth to saturated zone  l	0.05       	Depth to   saturated zone   	0.05       	Too steep for surface application Depth to saturated zone	0.08      0.05
Storden, eroded	   5         	  Somewhat limited   Slope       	    0.04       	  Somewhat limited   Slope       	  0.04         	  Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      0.22
L80D2: Lester, eroded	   75         	Slope	      1.00  0.01     	    Very limited   Slope   Too acid   	    1.00  0.01   	   Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	    1.00      1.00
Ridgeton	     10         	!	      0.63       	  Somewhat limited   Slope       	    0.63       	Too acid    Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	0.01    1.00    0.78
Storden, eroded	   8         		    1.00       	  Very limited   Slope       	  1.00         	   Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00
Terril	   5     	  Somewhat limited   Depth to   saturated zone   	    0.05     	  Somewhat limited   Depth to   saturated zone   	    0.05     	Somewhat limited   Too steep for surface   application   Depth to saturated zone	  0.32      0.05

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	manure and food processing wast	-	Application   of sewage sludg 	e	Disposal of   wastewater   by irrigation	ı
	unite   	'		Rating class and   limiting features	,	Rating class and   limiting features	Value
	ļ	<u> </u>		!			!
L80D2: Hamel	   2 	  Very limited   Depth to	    1.00	  Very limited   Depth to	    1.00	  Very limited   Depth to	    1.00
	   	saturated zone   Leaching   limitation	  0.70	saturated zone   Restricted   permeability	0.31	saturated zone   Restricted   permeability	0.31
	   	!	0.41	 	   	 	
L81A: Cordova	     85	    Very limited	   	    Very limited	   	    Very limited	   
	 	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	   	Leaching   limitation	0.70	Restricted   permeability	0.31	Restricted   permeability	0.31
		Restricted permeability	0.41	 	į Į	   	į Į
Le Sueur	   10 	  Very limited   Depth to	    1.00	  Very limited   Depth to	    1.00	  Very limited   Depth to	    1.00
	i 	saturated zone	0.01	saturated zone Too acid	0.01	saturated zone Too acid	0.01
Rolfe	   5	  Very limited	!	  Very limited	:	  Very limited	
	 	Depth to saturated zone	1.00 	Depth to saturated zone	1.00 	Depth to saturated zone	1.00 
	 	Restricted   permeability	1.00 	Restricted   permeability	1.00 	Restricted   permeability	1.00 
	 	!	1.00  0.50	Ponding Too acid	1.00  0.07	Ponding Too acid	1.00  0.07
	 	limitation Too acid	0.02	 		 	 
L82A:	 	 	 	 	 	 	
Marna	85 	Very limited   Depth to	  1.00	Very limited   Depth to	  1.00	Very limited   Depth to	  1.00
	 	saturated zone	  1.00	saturated zone Restricted	  1.00	saturated zone	  1.00
	 	permeability Leaching	0.50	permeability		permeability	 
	 	limitation 	 	 	 	 	 
Barbert	10 			  Very limited   Restricted	  1.00	  Very limited   Restricted	  1.00
	 	permeability Depth to	  1.00	permeability Depth to	  1.00	permeability Depth to	  1.00
	 	saturated zone Ponding	  1.00	saturated zone Ponding	  1.00	saturated zone Ponding	  1.00
	   	!	0.50	-	0.42		0.42
	 	!	0.11	i I	i I	 	j I
Guckeen	5 	  Very limited   Depth to		Very limited   Depth to	  1.00	  Very limited   Depth to	  1.00
	 	saturated zone	0.74	saturated zone	0.60	saturated zone	0.60
	 	permeability		permeability		permeability	

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	manure and food processing wast		Application   of sewage sludg 	e	Disposal of   wastewater   by irrigation	ı
	   			Rating class and   limiting features		Rating class and   limiting features	Value
L83A: Webster	   65       	Depth to saturated zone	      1.00    0.70	saturated zone	      1.00   	  Very limited   Depth to   saturated zone	      1.00   
Glencoe	   15         	Depth to saturated zone Ponding	  1.00    1.00  0.70	saturated zone Ponding	  1.00    1.00 	saturated zone	  1.00    1.00 
Canisteo	   10       	Depth to saturated zone	  1.00    0.70	saturated zone	    1.00     	  Very limited   Depth to   saturated zone 	  1.00   
Nicollet	   10   		    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone 	  1.00 
L84A: Glencoe	   80         	Depth to saturated zone Ponding	    1.00    1.00  0.70	saturated zone Ponding	    1.00    1.00   	saturated zone	    1.00    1.00 
Very poorly drained muck	:	Depth to saturated zone Low adsorption Ponding	  1.00    1.00  1.00  0.90	saturated zone Low adsorption Ponding	  1.00    1.00  1.00	saturated zone Low adsorption	  1.00    1.00  1.00
Canisteo	   5     	saturated zone	    1.00    0.70	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	  1.00   
Harps	   5       	saturated zone	    1.00    0.70 	saturated zone	    1.00       	Very limited Depth to saturated zone	  1.00     
L85A: Nicollet	   85     	-	    1.00 	  Very limited   Depth to   saturated zone 	      1.00 	  Very limited   Depth to   saturated zone	    1.00 

Table 11a.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map unit	manure and food processing wast	-	Application of sewage sludg	e	Disposal of wastewater by irrigation	1
	   	'	Value	Rating class and limiting features	•	Rating class and limiting features	Value
L85A: Clarion	     10       	    Somewhat limited   Depth to   saturated zone   	      0.05     	    Somewhat limited   Depth to   saturated zone   	      0.05     	  Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	    0.08      0.05
Webster	   5       	saturated zone	    1.00    0.70	  Very limited   Depth to   saturated zone 	    1.00     	  Very limited   Depth to   saturated zone 	    1.00   
L86A: Madelia	   90       		    1.00    0.70	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	1.00
Okoboji	   5           	saturated zone Ponding Leaching limitation	  1.00    1.00  0.50    0.30	saturated zone	  1.00    1.00  0.22 	saturated zone Ponding	  1.00    1.00  0.22 
Spicer	   3     	saturated zone	:	  Very limited   Depth to   saturated zone 	    1.00     	  Very limited   Depth to   saturated zone 	  1.00   
Kingston	   2     	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 
L87A: Kingston	     85   	•	      1.00	  Very limited   Depth to   saturated zone	      1.00	  Very limited   Depth to   saturated zone	    1.00
Truman	   10         	  Somewhat limited   Depth to   saturated zone   	  0.05       	  Somewhat limited   Depth to   saturated zone   	  0.05       	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
Madelia	   5     	  Very limited   Depth to   saturated zone   Leaching   limitation	    1.00    0.70	  Very limited   Depth to   saturated zone 	 	  Very limited   Depth to   saturated zone 	  1.00   

Table 11a.--Agricultural Waste Management--Continued

component name	Pct.  Application of   of   manure and food-  map   processing waste  unit			   Application   of sewage sludge   	e	Disposal of   wastewater   by irrigation	ı
	   	'	Value	Rating class and limiting features		Rating class and limiting features	Value
L88A:				 		  -	
Lura	   85   	  Very limited   Restricted   permeability	    1.00	  Very limited   Restricted   permeability	    1.00	  Very limited   Restricted   permeability	    1.00
	 	saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	     	!	1.00  0.50 	Ponding     	1.00     	Ponding   	1.00     
Brownton	   10   	  Very limited   Restricted   permeability	    1.00 	  Very limited   Restricted   permeability	  1.00 	  Very limited   Restricted   permeability	  1.00 
	     	Depth to saturated zone Leaching limitation	1.00    0.50	Depth to saturated zone	1.00     	Depth to   saturated zone   	1.00     
Organic soil	   5 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00
	   	Ponding	1.00  1.00  0.90	<u>.                                      </u>	1.00  1.00  0.78	Low adsorption Ponding Restricted	1.00  1.00  0.78
	     	limitation Restricted permeability	    0.89	permeability	     	permeability	
L89A: Guckeen	     82	    Very limited	   	    Very limited	   	    Very limited	   
duckeen		Depth to saturated zone	1.00	Depth to saturated zone	1.00 	Depth to saturated zone	1.00
	   	Restricted   permeability 	0.74   	Restricted   permeability 	0.60   	Restricted   permeability 	0.60   
Marna	10	  Very limited   Depth to   saturated zone	  1.00	  Very limited   Depth to   saturated zone	1.00	  Very limited   Depth to   saturated zone	1.00
	       	Restricted permeability	  1.00    0.50	Restricted permeability	  1.00     	Restricted permeability	1.00
Clarion clay loam	   8     	  Somewhat limited   Depth to   saturated zone 	    0.05   	  Somewhat limited   Depth to   saturated zone 	    0.05   	  Somewhat limited   Too steep for   surface   application	  0.08 
	   	  -  -	   	  -  -	   	Depth to   saturated zone	0.05
Le Sueur	   75 	Depth to	    1.00		    1.00	-	
	   	saturated zone   Too acid 	  0.01 	saturated zone   Too acid 	  0.01 	saturated zone   Too acid 	  0.01 

Table 11a.--Agricultural Waste Management--Continued

component name	Pct.  Application of   of   manure and food-  map   processing waste  unit		Application   of sewage sludg 	Application of sewage sludge		ı	
	   	'		Rating class and   limiting features	•	Rating class and limiting features	Value
L90A: Cordova	     13	! -	      1.00	    Very limited	      1.00	  -  Very limited	      1.00
	       	Depth to saturated zone Leaching limitation Restricted permeability	1.00     0.70     0.41	Depth to saturated zone Restricted permeability	1.00    0.31   	Depth to saturated zone Restricted permeability	  0.31   
Reedslake	   12           	   Somewhat limited   Depth to   saturated zone   	  0.05       	   Somewhat limited   Depth to   saturated zone   	  0.05       		  0.08      0.05
L91A: Mazaska	   85 	Depth to	    1.00	! -	    1.00		1
	       	saturated zone Restricted permeability Leaching limitation	  1.00    0.50	saturated zone Restricted permeability	  1.00     	saturated zone Restricted permeability	  1.00     
Lerdal	   10       	Very limited   Restricted   permeability   Depth to   saturated zone   Too acid	  1.00    1.00    0.03	permeability	  1.00    1.00    0.14	permeability Depth to saturated zone	  1.00    1.00    0.14
Rolfe	   5             		  1.00    1.00    1.00  0.50 	saturated zone Restricted permeability Ponding	  1.00    1.00    1.00  0.07	  Very limited   Depth to   saturated zone   Restricted   permeability   Ponding   Too acid	  1.00    1.00    1.00  0.07
L92A: Darfur	   78       	  Very limited   Depth to   saturated zone   Leaching   limitation	    1.00    0.70	  Very limited   Depth to   saturated zone 	      1.00   	  Very limited   Depth to   saturated zone 	    1.00   
Fieldon	   10             	  Very limited   Depth to   saturated zone   Filtering   capacity   Leaching   limitation	  1.00    1.00    0.70	saturated zone Filtering capacity	    1.00    1.00   	saturated zone	  1.00    1.00     

Table 11a.--Agricultural Waste Management--Continued

component name	Pct.  Application of   of   manure and food-  map   processing waste  unit		-	Application   of sewage sludg 	e	Disposal of wastewater by irrigation	ı
	   	'	Value	Rating class and   limiting features	Value	Rating class and   limiting features	Value
L92A: Litchfield	   5       	capacity	    1.00    1.00    0.02	capacity Depth to saturated zone	    1.00    1.00    0.07	capacity Depth to saturated zone	    1.00    1.00    0.07
Webster	   5     	saturated zone	    1.00    0.70	  Very limited   Depth to   saturated zone   	    1.00   	  Very limited   Depth to   saturated zone   	    1.00   
Dassel	   2           	saturated zone Ponding Filtering capacity	  1.00  1.00  1.00  1.00    0.70	saturated zone Ponding Filtering capacity	  1.00  1.00  1.00  1.00 		  1.00    1.00  1.00 
L93A: Muskego	   82             	Restricted permeability Depth to saturated zone Low adsorption Ponding	  1.00  1.00  1.00  1.00  0.90	permeability Depth to saturated zone Low adsorption Ponding	  1.00  1.00  1.00  1.00  1.00	permeability	  1.00    1.00    1.00  1.00
Blue Earth	   10       	Depth to saturated zone Ponding	  1.00    1.00  0.70	saturated zone	    1.00    1.00 	saturated zone	  1.00    1.00 
Mineral soil, drained	   5   6     1	saturated zone Ponding	    1.00    1.00  0.70	saturated zone	      1.00    1.00	  Very limited   Depth to   saturated zone   Ponding 	      1.00    1.00
Belleville	   3           	  Very limited   Filtering   capacity   Depth to   saturated zone   Leaching   limitation   Restricted   permeability	  1.00  1.00  1.00    0.90    0.41	capacity Depth to saturated zone	  1.00  1.00  1.00    0.31 	  Very limited   Filtering   capacity   Depth to   saturated zone   Restricted   permeability	  1.00  1.00  1.00  0.31 

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	of   manure and food- ap   processing waste		Application   of sewage sludg   	e	Disposal of wastewater by irrigation	
	 		Value	Rating class and		Rating class and limiting features	Value
							<u> </u>
L94A: Lowlein	   75   		    0.87 	  Somewhat limited   Depth to   saturated zone	    0.87 	  Somewhat limited   Depth to   saturated zone	    0.87 
Linder	   15 	  Very limited   Filtering   capacity	    1.00	  Very limited   Filtering   capacity	    1.00	  Very limited   Filtering   capacity	1.00
	   		  1.00 		  1.00   	Depth to saturated zone	1.00
Dickinson	8     	capacity	  1.00    0.01	capacity	  1.00    0.01	capacity	  1.00    0.08
	   		     	 	     	surface   application   Too acid	    0.01
Darfur	2     	saturated zone	  1.00    0.70	Very limited   Depth to   saturated zone	  1.00     	Very limited   Depth to   saturated zone 	  1.00   
L95E:	 		 	 	 		
Hawick	80           	capacity Droughty Slope	  1.00    1.00  1.00  0.45	capacity Droughty Slope	  1.00    1.00  1.00 	Very limited   Filtering   capacity   Too steep for   surface   application   Too steep for   sprinkler	  1.00    1.00      1.00
	     		     	   	     	application Droughty	1.00
Estherville	   10 	-	  1.00 	  Very limited   Filtering   capacity	  1.00 	  Very limited   Filtering   capacity	  1.00
	   	Slope   Droughty 	1.00  0.94 	Slope   Droughty 	1.00  0.94 	Too steep for surface application	1.00   
	   	 	   	   	   	Too steep for sprinkler application	1.00   
	 	 	 	 	 	Droughty	0.94 
Tomall	10   		  1.00 	  Very limited   Filtering   capacity 	  1.00 	Very limited   Filtering   capacity	  1.00 
L96B: Estherville	     55 	Filtering	1		      1.00	  Very limited   Filtering	1.00
	     	capacity   Droughty   	  0.70     	capacity   Droughty     	  0.70     	capacity   Droughty   Too steep for   surface   application	  0.70  0.08 

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map	of   manure and food-		Application   of sewage sludg 	е	Disposal of wastewater by irrigation	1
	   			Rating class and   limiting features		Rating class and   limiting features	Value
L96B: Hawick	   35           	Filtering capacity Droughty	    1.00    0.94  0.45	capacity	      1.00    0.94   	capacity	    1.00    0.94  0.08
Tomall	   8   	  Very limited   Filtering   capacity	    1.00 	  Very limited   Filtering   capacity	    1.00 	  Very limited   Filtering   capacity	    1.00
Biscay	   2         	saturated zone Filtering capacity	  1.00    1.00    0.70	saturated zone	    1.00    1.00   	saturated zone	  1.00    1.00 
L97C: Hawick	   60               	Filtering capacity Droughty Leaching limitation	   1.00   0.94   0.45   0.04	capacity Droughty	    1.00    0.94  0.04	capacity Too steep for	   1.00   1.00   1.00   0.94   0.22
Estherville	   30               	Filtering capacity Droughty	  1.00    0.70  0.04   	capacity Droughty	    1.00    0.70  0.04     	surface application	  1.00    1.00  1.00  0.70  0.22
Tomall	   10     			  Very limited   Filtering   capacity 	    1.00 	  Very limited   Filtering   capacity 	    1.00 
L98A: Crippin	     50   	• -	      1.00	  Very limited   Depth to   saturated zone	      1.00 	  Very limited   Depth to   saturated zone	      1.00
Nicollet	   40     		    1.00   	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	    1.00 

Table 11a.--Agricultural Waste Management--Continued

Map symbol and component name	  Pct.   of  map  unit	manure and food processing wast	-	   Application   of sewage sludg   	e	   Disposal of   wastewater   by irrigation	ı
	   		•	Rating class and   limiting features		Rating class and limiting features	Value
L98A: Canisteo	     5   	Very limited Depth to saturated zone Leaching limitation	      1.00    0.70	  Very limited   Depth to   saturated zone	      1.00 	  Very limited   Depth to   saturated zone	      1.00
Clarion	   5         		    0.05       	  Somewhat limited   Depth to   saturated zone   	    0.05       		    0.08      0.05
L99B: Clarion	   62         	  Somewhat limited   Depth to   saturated zone   	    0.05     	  Somewhat limited   Depth to   saturated zone   	    0.05     	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	    0.08      0.05
Swanlake	   25       	  Somewhat limited   Depth to   saturated zone   	    0.05     	  Somewhat limited   Depth to   saturated zone   	    0.05     	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.32      0.05
Nicollet	   10   		    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	
Webster	   3       	  Very limited   Depth to   saturated zone   Leaching   limitation	  1.00    0.70 	  Very limited   Depth to   saturated zone   	  1.00       	  Very limited   Depth to   saturated zone   	  1.00       
L100B: Clarion	   45       	  Somewhat limited   Depth to   saturated zone   	    0.05     	  Somewhat limited   Depth to   saturated zone   	    0.05     	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
Estherville	   35         	   Very limited   Filtering   capacity   Droughty 	  1.00    0.70   	capacity	    1.00    0.70   	Very limited   Filtering   capacity   Droughty   Too steep for   surface   application	  1.00    0.70  0.08
Lowlein	   5       	  Very limited   Filtering   capacity   Depth to   saturated zone	  1.00    0.87	capacity	  1.00    0.87	  Very limited   Filtering   capacity   Depth to   saturated zone	  1.00    0.87

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map	manure and food processing wast	Application of sewage sludg	e	Disposal of wastewater by irrigation	L	
	unit   			   Rating class and   limiting features	•	   Rating class and   limiting features	Value
L100B: Nicollet	     5 	    Very limited   Depth to   saturated zone	      1.00	    Very limited   Depth to   saturated zone	      1.00	    Very limited   Depth to   saturated zone	      1.00
Swanlake	   5       	  Somewhat limited   Depth to   saturated zone   	    0.05       	  Somewhat limited   Depth to   saturated zone   	    0.05     	  Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
Webster	   5     	saturated zone	    1.00    0.70	  Very limited   Depth to   saturated zone   	    1.00   	  Very limited   Depth to   saturated zone 	  1.00   
L101C2: Omsrud, eroded	   40         		      0.04     	  Somewhat limited   Slope       	      0.04     	  Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	    1.00      0.22
Hawick	   30             	Filtering   capacity   Droughty   Leaching   limitation	   1.00   0.94   0.45   0.04	capacity Droughty Slope	    1.00    0.94  0.04   	  Very limited   Filtering   capacity   Too steep for	    1.00    1.00      0.94  0.22
Storden, eroded	   20         	  Somewhat limited   Slope         	    0.04       	  Somewhat limited   Slope         	    0.04       	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      0.22
Delft	   5         	   Very limited   Depth to   saturated zone   Leaching   limitation   Restricted   permeability	  1.00    0.70    0.30	saturated zone	    1.00    0.22   	saturated zone	  1.00    0.22   
Terril	   5       	  Somewhat limited   Depth to   saturated zone   	    0.05       	  Somewhat limited   Depth to   saturated zone   	    0.05       	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05 

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	manure and food processing wast		Application   of sewage sludg 	e	Disposal of wastewater by irrigation	
	unit   		Value	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value
L101D2: Omsrud, eroded	   40       		      1.00     	    Very limited   Slope     	      1.00     	Very limited Too steep for surface application Too steep for sprinkler	    1.00    1.00
Hawick	     25   	capacity Slope	1.00    1.00	capacity	      1.00    1.00	application Very limited Filtering capacity Too steep for	    1.00    1.00
	         		0.94  0.45       	Droughty         	0.94         	surface application Too steep for sprinkler application Droughty	  1.00      0.94
Storden, eroded	   20           		  1.00         	  Very limited   Slope       	    1.00         	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00 
Ridgeton	   6         	  Somewhat limited   Slope       	    0.63       	  Somewhat limited   Slope       	  0.63       	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	    1.00      0.78
Delft	   5         	saturated zone Leaching limitation	  1.00    0.70    0.30	saturated zone Restricted permeability	  1.00    0.22   	   Very limited   Depth to   saturated zone   Restricted   permeability 	  1.00    0.22   
Terril	   4       	   Somewhat limited   Depth to   saturated zone   	    0.05     	   Somewhat limited   Depth to   saturated zone   	    0.05       	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.32      0.05
L102C2: Omsrud, eroded	     45         	'	      0.04       	  Somewhat limited   Slope       	    0.04       	  Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	    1.00      0.22

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	   		Value	Rating class and limiting features	Value	Rating class and   limiting features	Value
L102C2: Storden, eroded	   25       	•	    0.04     	    Somewhat limited   Slope     	      0.04     	surface application Too steep for sprinkler	    1.00      0.22
Omsrud	   15   15       	•	    0.04       	  Somewhat limited   Slope     	      0.04       	application    Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	    1.00      0.22
Terril	   10       	'	    0.05     	  Somewhat limited   Depth to   saturated zone   	    0.05     	  Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
Delft	   5           	saturated zone Leaching limitation	  1.00    0.70    0.30	saturated zone	    1.00    0.22   	saturated zone	  1.00    0.22   
L102D2: Omsrud, eroded	   45         	_	    1.00         	  Very limited   Slope     	    1.00         	  Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	    1.00      1.00 
Storden, eroded	   20         		  1.00         	  Very limited   Slope       	    1.00         	   Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00 
Omsrud	   15           		    1.00           	  Very limited   Slope         	    1.00           	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00 

Table 11a.--Agricultural Waste Management--Continued

Map symbol and component name	  Pct.   of  map  unit	manure and food processing wast	-	   Application   of sewage sludg   	re	Disposal of wastewater by irrigation	ı
	   		Value 	Rating class and   limiting features		Rating class and   limiting features	Value
L102D2: Ridgeton	   8   8       	  Somewhat limited   Slope     	    0.63       	  Somewhat limited   Slope       	    0.63       		    1.00      0.78
Delft	   6           	  Very limited   Depth to   saturated zone   Leaching   limitation   Restricted   permeability	  1.00    0.70    0.30	Very limited Depth to saturated zone Restricted permeability	  1.00    0.22   	  Very limited   Depth to   saturated zone   Restricted   permeability 	  1.00    0.22   
Terril	   6         	  Somewhat limited   Depth to   saturated zone   	  0.05       	  Somewhat limited   Depth to   saturated zone   	  0.05       		  0.32      0.05
L103A: Fieldon	   50         	  Very limited   Depth to   saturated zone   Filtering   capacity   Leaching   limitation	  1.00    1.00    0.70	  Very limited   Depth to   saturated zone   Filtering   capacity 	  1.00    1.00   	  Very limited   Depth to   saturated zone   Filtering   capacity 	  1.00    1.00   
Canisteo	   35       	   Very limited   Depth to   saturated zone   Leaching   limitation	    1.00    0.70	  Very limited   Depth to   saturated zone 	    1.00     	  Very limited   Depth to   saturated zone 	  1.00   
Darfur	   10       	saturated zone	  1.00    0.70	saturated zone	  1.00     	  Very limited   Depth to   saturated zone 	  1.00   
Glencoe	   5         	saturated zone Ponding	  1.00    1.00  0.70	saturated zone	  1.00    1.00   	saturated zone	  1.00    1.00   
L105C2: Lester, eroded	   45           	Slope	  0.04  0.01     		  0.04  0.01     	-	  1.00      0.22      0.01

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	manure and food- processing waste		Application of sewage sludge		Disposal of   wastewater   by irrigation 	
	 	Rating class and limiting features		Rating class and limiting features		Rating class and limiting features	Value
7.10.500							
L105C2: Hawick	   35 	  Very limited   Filtering	    1.00	  Very limited   Filtering	    1.00	  Very limited   Filtering	    1.00
	   	!	  0.94  0.45	!	  0.94  0.04	capacity Too steep for surface application	  1.00 
	       	Slope	  0.04     		       	Droughty Too steep for sprinkler application	  0.94  0.22 
Terril	   10         	Somewhat limited   Depth to   saturated zone   	  0.05       	Somewhat limited   Depth to   saturated zone   	  0.05       	Somewhat limited Too steep for surface application Depth to saturated zone	  0.08      0.05
Hamel	   5         	  Very limited   Depth to   saturated zone   Leaching   limitation   Restricted   permeability	  1.00    0.70    0.41	saturated zone	  1.00    0.31 	saturated zone	  1.00    0.31 
Storden, eroded	   5           	  Somewhat limited   Slope       	    0.04         	  Somewhat limited   Slope         	    0.04         	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      0.22   
L105D2: Lester, eroded	   45 	Slope	    1.00  0.01	! -	    1.00  0.01	•	    1.00 
	       	 	       	   	       	application Too steep for sprinkler application Too acid	  1.00      0.01
Hawick	   35 	• -	    1.00	  Very limited   Filtering	    1.00	  Very limited   Filtering	    1.00
	     	Droughty	  1.00  0.94	Droughty	  1.00  0.94	capacity Too steep for surface	  1.00 
	     	Leaching   limitation 	0.45     		     	application Too steep for sprinkler application Droughty	  1.00        0.94

Table 11a.--Agricultural Waste Management--Continued

component name	  Pct.   of  map  unit	manure and food processing wast	-	   Application   of sewage sludg   	e	Disposal of wastewater by irrigation	
	 	Rating class and limiting features	Value 	Rating class and limiting features	•	Rating class and limiting features	Value
L105D2: Ridgeton	   8   8       	    Somewhat limited   Slope     	      0.63       	    Somewhat limited   Slope       	      0.63       	Very limited Too steep for surface application Too steep for sprinkler application	      1.00        0.78
Hamel	   5           	  Very limited   Depth to   saturated zone   Leaching   limitation   Restricted   permeability	  1.00    0.70    0.41	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.31   	Very limited Depth to saturated zone Restricted permeability	  1.00    0.31   
Storden, eroded	   5           	Very limited   Slope         	  1.00         	Very limited   Slope 	  1.00         	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00
Terril	   2           	  Somewhat limited   Depth to   saturated zone   	  0.05         	  Somewhat limited   Depth to   saturated zone   	  0.05         	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.32      0.05
L106C2: Lester, eroded	   62           	Slope	    0.04  0.01     	! -	    0.04  0.01     	<u> </u>	   1.00     0.22     0.01
Storden, eroded	   20         	:	    0.04       	  Somewhat limited   Slope       	    0.04       		  1.00        0.22
Terril	   10           	!	    0.05         	  Somewhat limited   Depth to   saturated zone   	    0.05         	Somewhat limited     Too steep for     surface     application     Depth to     saturated zone	  0.08        0.05

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. Application of manure and fo map processing wa unit			Application   of sewage sludg   	e	Disposal of wastewater by irrigation	ı
	   		Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L106C2: Hamel	     5 	saturated zone	1.00 	saturated zone	      1.00	saturated zone	      1.00
	       	Leaching   limitation   Restricted   permeability	0.70    0.41 	Restricted   permeability   	0.31       	Restricted   permeability   	0.31     
Reedslake	3         	Somewhat limited   Depth to   saturated zone	  0.05       	Somewhat limited   Depth to   saturated zone	  0.05       	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
L106D2: Lester, eroded	   62           	Slope	  1.00  0.01       	  Very limited   Slope   Too acid     	  1.00  0.01     		  1.00      1.00     
Storden, eroded	   20           		    1.00       	  Very limited   Slope       	    1.00       	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00
Ridgeton	   10           	  Somewhat limited   Slope     	  0.63         	  Somewhat limited   Slope       	  0.63       	   Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      0.78
Terril	   5       	Somewhat limited   Depth to   saturated zone	  0.05     	   Somewhat limited   Depth to   saturated zone   	  0.05     	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	0.32
Hamel	   3           	saturated zone Leaching limitation	  1.00    0.70    0.41 	saturated zone	  1.00    0.31   	   Very limited   Depth to   saturated zone   Restricted   permeability 	  1.00    0.31   

Table 11a.--Agricultural Waste Management--Continued

component name	Pct.  Application of   of   manure and food-   map   processing waste   unit		Application   of sewage sludg 	e	Disposal of   wastewater   by irrigation		
	   			Rating class and   limiting features		Rating class and   limiting features	Value
L107A: Canisteo	     50     	Depth to saturated zone	      1.00    0.70	  Very limited   Depth to   saturated zone	      1.00   	  Very limited   Depth to   saturated zone	      1.00   
Glencoe	   35         	Depth to saturated zone Ponding	  1.00    1.00  0.70	saturated zone Ponding	  1.00    1.00 	  Very limited   Depth to   saturated zone   Ponding 	  1.00    1.00 
Harps	   10       	Depth to saturated zone	    1.00    0.70	  Very limited   Depth to   saturated zone 	    1.00     	  Very limited   Depth to   saturated zone 	    1.00     
Canisteo, depressional	   3       	saturated zone	    1.00    0.70	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	    1.00   
Crippin	   2   	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 
L108A: Cordova	   65           	Depth to saturated zone Leaching limitation	    1.00    0.70    0.41	saturated zone Restricted permeability	  1.00    0.31 	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.31 
Rolfe	   30             	Depth to saturated zone Restricted permeability Ponding Leaching limitation	1.00 	saturated zone Restricted permeability Ponding Too acid		permeability Ponding	  1.00    1.00    1.00  0.07
Le Sueur	   5     	saturated zone	    1.00    0.01	saturated zone		  Very limited   Depth to   saturated zone   Too acid 	  1.00    0.01

Table 11a.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map unit	manure and food processing wast		Application of sewage sludg	e	Disposal of wastewater by irrigation	ı 
	 	Rating class and limiting features	Value 	Rating class and limiting features	Value 	Rating class and limiting features	Value
-100-							
L109A: Marna	   65 	<u>.                                      </u>	    1.00	! -	1.00	! -	1.00
	       	permeability	  1.00    0.50	saturated zone   Restricted   permeability 	  1.00     	saturated zone Restricted permeability	1.00
Barbert	   30 	!	    1.00	!	    1.00	!	    1.00
	 	permeability Depth to	  1.00	permeability Depth to	1.00	permeability Depth to	11.00
	i	saturated zone		saturated zone	į	saturated zone	i
	   	!	1.00  0.50 	!	1.00  0.42 	Ponding   Too acid 	1.00  0.42 
	į	Too acid	0.11	į	į	į	į
Guckeen	   5 		    1.00	! · · · · · · · · · · · · · · · · · · ·	    1.00	! -	1.00
	   	saturated zone   Restricted   permeability	  0.74 	saturated zone   Restricted   permeability	  0.60 	saturated zone   Restricted   permeability	  0.60 
L110E: Lester	     50   		      1.00	    Very limited   Slope 	      1.00	    Very limited   Too steep for   surface	      1.00
	     	 	     	 	     	application Too steep for sprinkler application	  1.00 
Ridgeton	   30   		    1.00	  Very limited   Slope 	    1.00	  Very limited   Too steep for   surface	    1.00
	     	 	     	 	     	application Too steep for sprinkler application	  1.00   
Cokato	   10   		    1.00	  Very limited   Slope 	1 1.00	  Very limited   Too steep for   surface	1   1.00
	     	 	     	 	     	application Too steep for sprinkler application	  1.00 
Belview	   6     	  Very limited   Slope   	    1.00 	  Very limited   Slope   	    1.00 	  Very limited   Too steep for   surface   application	    1.00 
	     	 	     	 	     	Too steep for sprinkler application	1.00

Table 11a.--Agricultural Waste Management--Continued

component name	Pct.  Application of   of   manure and food-   map   processing waste   unit			Application   of sewage sludg 	e	Disposal of   wastewater   by irrigation	ı
	   	'		Rating class and   limiting features		Rating class and   limiting features	Value
L110E: Hamel	     2   	saturated zone	      1.00    0.70	saturated zone	      1.00    0.31	saturated zone	    1.00    0.31
Terril	         2 	permeability      Somewhat limited	  0.41        0.05	permeability          Somewhat limited   Depth to   saturated zone	          0.05	surface	          0.32
	     	   	     	   	   	application   Depth to   saturated zone 	  0.05   
L110F: Lester	   55         		    1.00       	  Very limited   Slope       	  1.00       		  1.00      1.00
Ridgeton	   30           		    1.00         	  Very limited   Slope       	  1.00         	  Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00 
Cokato	   8           	  Very limited   Slope       	  1.00           	  Very limited   Slope       	  1.00         	Very limited   Too steep for surface   application   Too steep for sprinkler   application	  1.00      1.00 
Belview	   4         	  Very limited   Slope         	  1.00       	  Very limited   slope       	  1.00       	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00 
Terril	   2         	  Somewhat limited   Depth to   saturated zone   	    0.05       	  Somewhat limited   Depth to   saturated zone   	    0.05       	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.32      0.05

Table 11a.--Agricultural Waste Management--Continued

component name	Pct.  Application of   of   manure and food-  map   processing waste  unit		-	Application   of sewage sludg 	e	Disposal of   wastewater   by irrigation	ı
	   	'	Value	Rating class and   limiting features	•	Rating class and   limiting features	Value
L110F: Hamel	     1       	  Very limited   Depth to   saturated zone   Leaching   limitation   Restricted	    1.00    0.70    0.41	  Very limited   Depth to   saturated zone   Restricted   permeability	      1.00    0.31	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.31
L111A: Nicollet	       85	permeability          Very limited	     	    Very limited	:	    Very limited	
Clarion	       10 	saturated zone	1.00          0.05	saturated zone      Somewhat limited	1.00          0.05	Depth to   saturated zone    Somewhat limited   Too steep for	1.00          0.08
	     	saturated zone     	     	saturated zone     	     	surface application Depth to saturated zone	    0.05 
Webster	   5     	  Very limited   Depth to   saturated zone   Leaching   limitation	  1.00    0.70	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	1.00
L112A: Webster	   85       	! -	    1.00    0.70	  Very limited   Depth to   saturated zone 	      1.00   	  Very limited   Depth to   saturated zone 	      1.00   
Glencoe	   10         	Depth to saturated zone	  1.00    1.00  0.70	   Very limited   Depth to   saturated zone   Ponding 	    1.00    1.00 	   Very limited   Depth to   saturated zone   Ponding 	  1.00    1.00 
Nicollet	   5   	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 	  Very limited   Depth to   saturated zone	    1.00 
L113B: Reedslake	   75         	!	    0.05     	  Somewhat limited   Depth to   saturated zone   	      0.05     	  Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	    0.08      0.05
Le Sueur	   10     		    1.00 	  Very limited   Depth to   saturated zone 	    1.00   	  Very limited   Depth to   saturated zone 	    1.00 

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	manure and food processing wast	-	Application   of sewage sludg 	e	Disposal of wastewater by irrigation	ı
	   	Rating class and limiting features	Value	Rating class and   limiting features	Value	Rating class and   limiting features	Value
L113B: Reedslake, eroded	   10         	  Somewhat limited   Depth to   saturated zone   	      0.05     	  Somewhat limited   Depth to   saturated zone   	      0.05     	  Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	    0.32      0.05
Cordova	   5           	   Very limited   Depth to   saturated zone   Leaching   limitation   Restricted   permeability	  1.00    0.70    0.41	   Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.31   	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.31   
L114A:		!   !					į
Hanlon, rarely flooded	   85         	  Somewhat limited   Depth to   saturated zone   Filtering   capacity 	  0.87    0.01 	saturated zone	  0.87    0.40  0.01	  Somewhat limited   Depth to   saturated zone   Filtering   capacity 	  0.87    0.01 
Coland, occasionally	:		į		į		į
flooded	10           	Very limited   Depth to   saturated zone   Leaching   limitation   Flooding	  1.00    0.70    0.60	Very limited	  1.00    1.00   	Very limited	  1.00    0.60   
Minneopa, rarely	<u> </u>		į		į		į
flooded	5           	Very limited   Filtering   capacity   Depth to   saturated zone   Droughty	  1.00    0.87    0.07	capacity Depth to saturated zone	  1.00    0.87    0.40  0.07	Very limited   Filtering   capacity   Depth to   saturated zone   Droughty	  1.00    0.87    0.07
L115A:	 	 		 		 	
Brownton	55           	Restricted permeability	  1.00    1.00    0.50	permeability	  1.00    1.00   	permeability	  1.00    1.00   
Lura	   35             		  1.00    1.00    1.00  0.50	permeability Depth to saturated zone Ponding	  1.00    1.00    1.00 	permeability	  1.00    1.00    1.00

Table 11a.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map	manure and food processing wast	-	Application of sewage sludg	e	Disposal of wastewater by irrigation	ı
	unit   		Value	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value
L115A: Marna	   10         	saturated zone Restricted permeability	    1.00    1.00    0.50	Very limited Depth to saturated zone Restricted permeability	      1.00    1.00	Very limited Depth to saturated zone Restricted permeability	    1.00    1.00 
L116A:	   	limitation   	   	  -  -	   	 	   
Le Sueur	45     	! -	  1.00    0.01	saturated zone	  1.00    0.01	Very limited   Depth to   saturated zone   Too acid	  1.00    0.01
Lerdal	   40       	Restricted permeability Depth to saturated zone	  1.00    1.00    0.03	permeability Depth to saturated zone	  1.00    1.00    0.14	permeability	  1.00    1.00    0.14
Mazaska	   10           	Depth to saturated zone Restricted permeability	  1.00    1.00    0.50	  Very limited   Depth to   saturated zone   Restricted   permeability 	  1.00    1.00   	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    1.00   
Kilkenny	   5         	saturated zone Restricted permeability	  1.00    0.41    0.05	saturated zone Restricted permeability	  1.00    0.31    0.21	saturated zone Restricted permeability	  1.00    0.31    0.21
L117C2: Omsrud, eroded	   65         	!	    0.04       	  Somewhat limited   Slope         	    0.04       	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      0.22
Omsrud	   15         	1	    0.04       	  Somewhat limited   Slope       	    0.04       		  1.00      0.22 
Terril	   10           	!	    0.05       	  Somewhat limited   Depth to   saturated zone   	    0.05       	  Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	manure and food processing wast		Application   of sewage sludg 	e	Disposal of wastewater by irrigation	L
	unite   		Value	Rating class and   limiting features	Value	Rating class and   limiting features	Value
L117C2:	     5	    Very limited   Depth to	      1.00	    Very limited   Depth to	      1.00	    Very limited   Depth to	      1.00
	         	saturated zone Leaching limitation Restricted permeability	  0.70    0.30 	saturated zone Restricted permeability	  0.22     	saturated zone Restricted permeability	  0.22     
Storden, eroded	5           	Somewhat limited   Slope	  0.04         	Somewhat limited   Slope           	  0.04         	Very limited  Too steep for surface application Too steep for sprinkler application	  1.00      0.22 
L118A: Rushriver, frequently flooded	       85	      Very limited	     	      Very limited	     	      Very limited	     
frequenciy frooded	63           	Depth to saturated zone Flooding	  1.00    1.00  0.70    0.01	Depth to saturated zone Flooding	  1.00    1.00  0.01 	Depth to   saturated zone   Flooding   Filtering   capacity	  1.00    1.00  0.01 
Houghton, frequently flooded	:	    Very limited	:	    Very limited	:	    Very limited	
	         	saturated zone Flooding Low adsorption Ponding	1.00    1.00  1.00  1.00  0.90	Low adsorption Ponding	1.00    1.00  1.00  1.00  0.07	Depth to   saturated zone   Low adsorption   Flooding   Ponding   Too acid	1.00    1.00  1.00  1.00  0.07
Klossner, frequently flooded	!	    Very limited	•	    Very limited	•	    Very limited	   
	           	Low adsorption Ponding	1.00    1.00  1.00  1.00  0.90	Low adsorption Ponding	1.00    1.00  1.00  1.00 	·	1.00    1.00  1.00  1.00
Medo, frequently flooded	     5 	    Not rated 	     	    Not rated 	     	    Not rated 	   
L119B: Angus	   80       	  Somewhat limited   Depth to   saturated zone 	    0.05       	  Somewhat limited   Depth to   saturated zone   	    0.05     	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	    0.08      0.05

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	manure and food processing wast	-	Application   of sewage sludg 	e	Disposal of wastewater by irrigation	ı
	   		Value	Rating class and   limiting features		Rating class and limiting features	Value
L119B: Angus, eroded	   10   10       	!	      0.05     	  Somewhat limited   Depth to   saturated zone   	      0.05     	  Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	    0.08      0.05
Cordova	   5         	saturated zone Leaching limitation	  1.00    0.70    0.41	saturated zone Restricted permeability	  1.00    0.31   	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.31 
Le Sueur	   5     	saturated zone	    1.00    0.01	saturated zone	 	  Very limited   Depth to   saturated zone   Too acid	  1.00    0.01
L120A: Good Thunder	   80       	Depth to saturated zone	    0.87    0.74	saturated zone	    0.87    0.60	  Somewhat limited   Depth to   saturated zone   Restricted   permeability	    0.87    0.60
Ocheyedan	   10   	!	    0.05	  Somewhat limited   Depth to   saturated zone	    0.05 	  Somewhat limited   Depth to   saturated zone	    0.05
Minnetonka	   10             	Depth to saturated zone Restricted permeability Leaching limitation	  1.00    1.00    0.50    0.02	saturated zone Restricted permeability	  1.00    1.00    0.07	Very limited   Depth to   saturated zone   Restricted   permeability   Too acid	  1.00    1.00    0.07
L121B: Clarion	   80         	'	    0.05     	  Somewhat limited   Depth to   saturated zone   	    0.05     	  Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	    0.08      0.05
Guckeen	   15       	Depth to saturated zone	  1.00    0.74	saturated zone	    1.00    0.60 	   Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.60

Table 11a.--Agricultural Waste Management--Continued

component name	Pct.  Application of   of   manure and food-  map   processing waste  unit		-	Application of sewage sludg	e	Disposal of wastewater by irrigation	ı
	 	'	Value 	Rating class and limiting features		Rating class and limiting features	Value
L121B: Marna	   5   6     6   7	  Very limited   Depth to   saturated zone   Restricted   permeability   Leaching   limitation	    1.00    1.00    0.50	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00   	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00 
L122B: Reedslake	   55         	  Somewhat limited   Depth to   saturated zone   	    0.05       	  Somewhat limited   Depth to   saturated zone   	    0.05       	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
Estherville	25             	Filtering capacity	  1.00    0.70   	capacity	  1.00    0.70   	Very limited   Filtering   capacity   Droughty   Too steep for   surface   application	  1.00    0.70  0.08
Le Sueur	   10     	  Very limited   Depth to   saturated zone   Too acid	  1.00    0.01	saturated zone	  1.00    0.01	saturated zone	  1.00    0.01
Cordova	   5         	  Very limited   Depth to   saturated zone   Leaching   limitation   Restricted   permeability	  1.00    0.70    0.41	Very limited Depth to saturated zone Restricted permeability	  1.00    0.31   	Very limited Depth to saturated zone Restricted permeability	  1.00    0.31 
Lowlein	   5       	  Very limited   Filtering   capacity   Depth to   saturated zone	    1.00    0.87	  Very limited   Filtering   capacity   Depth to   saturated zone	    1.00    0.87	  Very limited   Filtering   capacity   Depth to   saturated zone	  1.00    0.87
L123A: Belleville	   85             	! -	1.00	capacity Depth to saturated zone Restricted permeability	    1.00    1.00    0.31   	capacity Depth to saturated zone	  1.00    1.00    0.31 

Table 11a.--Agricultural Waste Management--Continued

component name	of  map	ap processing waste		Application of sewage sludg	Disposal of wastewater by irrigation		
	unit   		Value	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value
		[		ļ		ļ	[
L123A: Granby	   15 	Filtering	    1.00	  Very limited   Filtering	    1.00	!	    1.00
	   	capacity   Depth to   saturated zone	  1.00 	capacity Depth to saturated zone	  1.00 	capacity Depth to saturated zone	  1.00 
	     	Ponding Leaching limitation Droughty	1.00  0.90    0.23	Ponding Droughty	1.00  0.23 	Ponding Droughty	1.00  0.23 
L124A: Glencoe mucky clay	   	   	   	   	   	   	 
loam	   85 	  Very limited   Depth to	  1.00	  Very limited   Depth to	  1.00	  Very limited   Depth to	  1.00
	     	saturated zone Ponding Leaching limitation	  1.00  0.70 	saturated zone Ponding	  1.00   	saturated zone   Ponding   	  1.00 
Canisteo	   10       	  Very limited   Depth to   saturated zone   Leaching   limitation	    1.00    0.70	  Very limited   Depth to   saturated zone 	    1.00     	  Very limited   Depth to   saturated zone 	    1.00   
Glencoe clay loam	   5       	  Very limited   Depth to   saturated zone   Ponding   Leaching   limitation	  1.00    1.00  0.70	  Very limited   Depth to   saturated zone   Ponding	    1.00    1.00	  Very limited   Depth to   saturated zone   Ponding 	  1.00    1.00 
L125A:	 	 		 	 	 	
Hanlon, rarely flooded	   60         	  Somewhat limited   Depth to   saturated zone   Filtering   capacity	    0.87    0.01	  Somewhat limited   Depth to   saturated zone   Flooding   Filtering   capacity	    0.87    0.40  0.01	  Somewhat limited   Depth to   saturated zone   Filtering   capacity	    0.87    0.01 
Coland, occasionally flooded		  Very limited   Depth to   saturated zone   Leaching   limitation   Flooding	    1.00    0.70    0.60	Very limited Depth to saturated zone Flooding	      1.00    1.00 	Very limited Depth to saturated zone Flooding	    1.00    0.60 
Minneopa, rarely flooded	   15       	  Very limited   Filtering   capacity   Depth to   saturated zone   Droughty	    1.00    0.87    0.07	  Very limited   Filtering   capacity   Depth to   saturated zone   Flooding	    1.00    0.87    0.40	  Very limited   Filtering   capacity   Depth to   saturated zone   Droughty	    1.00    0.87    0.07

Table 11a.--Agricultural Waste Management--Continued

component name	Pct. of map unit	manure and food- processing waste		Application   of sewage sludg 	e	Disposal of wastewater by irrigation	ı
	   		Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L126A: Coland, occasionally flooded			        1.00		        1.00	      Very limited   Depth to	        1.00
	     	saturated zone Leaching limitation Flooding	  0.70    0.60	saturated zone Flooding	  1.00   	saturated zone   Flooding   	  0.60   
Minneopa, occasionally	   		   	   	   	   	   
flooded	10   	Filtering capacity	1.00	Filtering	  1.00  1.00	Very limited Filtering capacity Depth to	  1.00    0.87
	     	Depth to saturated zone Flooding Droughty	0.87    0.60  0.07	capacity   Depth to   saturated zone   Droughty	  0.87    0.07	Depth to   saturated zone   Flooding   Droughty	0.87    0.60  0.07
Havelock, occasionally	   		   	  -  -	   	  -  -	
flooded	5   	Very limited   Depth to   saturated zone   Leaching	  1.00    0.70	Very limited   Depth to   saturated zone   Flooding	  1.00    1.00	Very limited   Depth to   saturated zone   Flooding	  1.00    0.60
	     	limitation   Flooding   Filtering   capacity	  0.60  0.01	Filtering   capacity 	0.01     	Filtering   capacity 	0.01     
Spillville, occasionally flooded	       5	      Very limited	     	      Very limited	     	      Very limited	     
	   	Depth to saturated zone Flooding	1.00    0.60	Depth to saturated zone Flooding	1.00    1.00	Depth to saturated zone Flooding	1.00    0.60
L127A: Coland, frequently	   	 	   	 	   	   	   
flooded	   80 	-	  1.00 	  Very limited   Depth to   saturated zone	  1.00 	  Very limited   Depth to   saturated zone	1.00
	   	Flooding Leaching limitation	1.00	Flooding   	1.00	Flooding   	1.00
Minneopa, occasionally flooded	       10	      Very limited	     	      Very limited	     	      Very limited	     
	   	Filtering capacity Depth to	1.00    0.87	Flooding Filtering	1.00  1.00 	Filtering capacity Depth to	1.00    0.87
	   	saturated zone	  0.60  0.02	Depth to saturated zone Droughty	0.87	saturated zone Flooding Droughty	  0.60  0.02

Table 11a.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map	manure and food processing wast	-	Application of sewage sludg	e	Disposal of wastewater by irrigation	1
	unit   		Value	Rating class and   limiting features	Value	   Rating class and   limiting features	Value
L127A: Havelock, frequently flooded	:	Very limited Depth to saturated zone Flooding Leaching limitation Filtering capacity	        1.00    1.00  0.70    0.01	Very limited Depth to saturated zone Flooding Filtering capacity	        1.00    1.00  0.01   	Very limited Depth to saturated zone Flooding Filtering capacity	          1.00  0.01   
Spillville,	į	  -	į	į	į	į	į
occasionally flooded	   5     	  Very limited   Depth to   saturated zone   Flooding	    1.00    0.60	saturated zone	    1.00    1.00	  Very limited   Depth to   saturated zone   Flooding	    1.00    0.60
L128A:		 		 		 	
	   60         	  Very limited   Depth to   saturated zone   Restricted   permeability   Leaching   limitation	  1.00    1.00    0.50	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    1.00 	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    1.00
Rolfe	   30             	Depth to saturated zone Restricted permeability	  1.00    1.00    1.00  0.50 	  Very limited   Depth to   saturated zone   Restricted   permeability   Ponding   Too acid	  1.00    1.00    1.00  0.07	  Very limited   Depth to   saturated zone   Restricted   permeability   Ponding   Too acid	  1.00    1.00    1.00  0.07
Lerdal	   10         	Very limited Restricted permeability Depth to saturated zone Too acid	  1.00    1.00    0.03	Very limited   Restricted   permeability   Depth to   saturated zone   Too acid	  1.00    1.00    0.14	Very limited   Restricted   permeability   Depth to   saturated zone   Too acid	  1.00    1.00    0.14
L129B:	 	 	 	 	 	 	
Terril	90         	Somewhat limited Depth to saturated zone	  0.05       	Somewhat limited   Depth to   saturated zone   	  0.05       	Somewhat limited Too steep for surface application Depth to saturated zone	0.08
Delft	   5           		  1.00    0.70    0.30	saturated zone	  1.00    0.22   	saturated zone	  1.00    0.22   

Table 11a.--Agricultural Waste Management--Continued

component name	  Pct.   of  map  unit	manure and food processing wast		   Application   of sewage sludg   	e	Disposal of wastewater by irrigation	ı
	 	Rating class and limiting features	•	Rating class and limiting features		Rating class and limiting features	Value
L129B: Hamel	     5       	   Very limited   Depth to   saturated zone   Leaching   limitation   Restricted   permeability	    1.00    0.70    0.41	Very limited Depth to saturated zone Restricted permeability	      1.00    0.31   	   Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.31   
L130A:	į		į	į	į		į
Okoboji mucky silty clay loam	   75             	Depth to saturated zone	  1.00    1.00  0.50    0.41	saturated zone Ponding	    1.00    1.00  0.31   	   Very limited   Depth to   saturated zone   Ponding   Restricted   permeability	  1.00    1.00  0.31   
Okoboji silty clay	į		į	İ	į		į
loam	15             	Leaching limitation	  1.00    1.00  0.50    0.30	saturated zone Ponding	  1.00    1.00  0.22   	saturated zone Ponding	  1.00    1.00  0.22   
Brownton	   5         	Very limited Restricted permeability Depth to saturated zone Leaching limitation	  1.00    1.00    0.50	Very limited   Restricted   permeability   Depth to   saturated zone	  1.00    1.00   	Very limited Restricted permeability Depth to saturated zone	  1.00    1.00   
Spicer	   5       	saturated zone	  1.00    0.70	  Very limited   Depth to   saturated zone 	    1.00     	  Very limited   Depth to   saturated zone 	1.00
M-W: Water, miscellaneous	    100	    Not rated 	     	    Not rated 	     	    Not rated 	     
U3B: Udorthents (cut and fill land)		    Not rated	     	      Not rated 	       	    Not rated	
W: Water	  100 	    Not rated 	:     	  Not rated 	   	  Not rated 	     

Table 11b.--Agricultural Waste Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

component name	Pct.   of  map  unit	of wastewater		Rapid infiltrati   of wastewater   		Slow rate treatm   of wastewater   	
	 	Rating class and limiting features	Value 	Rating class and limiting features		Rating class and limiting features	Value
GP:		  -					
Pits, gravel	80	  Not rated		  Not rated		  Not rated	
Udipsamments	   20 	  Not rated 	   	  Not rated 	   	  Not rated 	   
L5A:	į	İ	į	İ	İ		į
Delft, overwash	50       	Very limited   Depth to   saturated zone   Seepage	  1.00    0.77	permeability	  1.00    1.00	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.15
Delft	   40     	  Very limited   Depth to   saturated zone   Seepage	    1.00    0.77	permeability	    1.00    1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.15
Glencoe	   5       	Ponding	  1.00    1.00  1.00  0.50		  1.00    1.00    1.00	  Very limited   Depth to   saturated zone   Ponding 	  1.00    1.00
Terril	   5       	  Very limited   Seepage   Depth to   saturated zone	    1.00  0.05   		    1.00    1.00 	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
L13A: Klossner, drained	     80	    Very limited	   	    Very limited	   	    Very limited	   
, <b></b>	             	Depth to saturated zone Low adsorption Seepage Ponding	1.00    1.00  1.00  1.00  0.50	Depth to saturated zone	  1.00    1.00    1.00		  1.00    1.00  1.00  0.21
Mineral soil, drained	   15   	Seepage	    1.00  1.00		    1.00	  Very limited   Depth to   saturated zone	    1.00
	   		  1.00  0.50	Restricted permeability Ponding	1.00	Ponding	1.00

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map	Overland flow of wastewater		Rapid infiltrati		Slow rate treatm   of wastewater	
	unit	 		 		 	
	   		Value	Rating class and limiting features	Value	Rating class and limiting features	Value
	 		İ	İ	İ	İ	İ
L13A:							
Houghton, drained	5	Very limited		Very limited		Very limited	
	 	Depth to	1.00	Depth to	1.00	Depth to	1.00
	 	saturated zone Low adsorption	1.00	saturated zone Ponding	1	saturated zone Low adsorption	11.00
	 	Seepage	11.00	!	10.69	Ponding	11.00
	! 	Ponding	1.00	permeability		Too acid	0.31
	į	Too level	0.50		i		i
	ĺ	İ	İ	İ	İ	İ	Ì
L14A:			ļ		İ		ļ
Houghton, drained	80		•	Very limited		Very limited	
	 	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	l I	Low adsorption	1.00	Ponding	1	Low adsorption	1
	! 	Seepage	11.00	Restricted	0.69	Ponding	11.00
	İ	Ponding	1.00	permeability		Too acid	0.31
	į	Too level	0.50	j	i	İ	i
Klossner, drained	10	-		Very limited		Very limited	!
		Depth to	1.00	!	1.00	Depth to	1.00
		saturated zone Low adsorption	11 00	saturated zone	11 00	saturated zone	1 00
	 	Low adsorption   Seepage	1.00	Restricted permeability	1.00	Low adsorption Ponding	1.00
	 	Ponding	11.00	Ponding	11.00	Too acid	0.21
	<u> </u>	Too level	0.50				
	ĺ	İ	Ì	İ	İ	ĺ	Ì
Mineral soil,	!		!		!		!
drained	10			Very limited		Very limited	
		Seepage Depth to	1.00		1.00	Depth to saturated zone	1.00
	l I	saturated zone	1	Restricted	1	Saturated Zone   Ponding	1
	! 	Ponding	1	permeability	1	l	1
	<u> </u>	Too level	0.50	Ponding	1.00	İ	i
	İ	İ	İ	İ	İ	j	İ
L15A:				<u> </u>	1		
Klossner, ponded	30	<u> </u>		Very limited		Very limited	
		Ponding	1.00		11.00	Ponding	1.00
	 	Depth to saturated zone	1	Depth to saturated zone	1.00	Depth to saturated zone	1
	! 	Low adsorption	1	Restricted	11.00	Low adsorption	11.00
	i	Seepage	1.00	permeability			
	į	Too level	0.50	j	İ	j	İ
		[	[	ļ	1	<u> </u>	1
Okoboji, ponded	30		:	Very limited	!	Very limited	!
		Seepage	1.00		1.00	Ponding	1.00
	 	Ponding	1.00  1.00	!	1.00	Depth to	1.00
	l I	Depth to saturated zone	1	permeability Depth to	1 1.00	saturated zone Restricted	0.15
	<u> </u>	Too level	0.50	saturated zone		restricted   permeability	
	i				i		i
Glencoe, ponded	30	Very limited	1	  Very limited	1	  Very limited	İ
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to	1.00	Depth to	1.00	Depth to	1.00
	ļ	saturated zone		saturated zone		saturated zone	ļ
		Seepage	10.50	!	1.00		1
	I	Too level	0.50	permeability	I	I	1

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map unit	of wastewater		   Rapid infiltrati   of wastewater 		Slow rate treatm	
	unitc   	'	Value	Rating class and   limiting features	Value	Rating class and   limiting features	Value
		ļ		ļ	[		
L15A: Houghton, ponded		 		  Very limited		  Very limited	
Houghton, ponded	1 10	Ponding	1	Ponding	1	Ponding	1
	i	Depth to	11.00	Depth to	1.00	Depth to	11.00
	İ	saturated zone	i	saturated zone	i	saturated zone	i
		Low adsorption	1.00	Restricted	0.69	Low adsorption	1.00
	ļ		1.00	permeability	!	!	ļ
		Too level	0.50				!
L16A:		 	 	 	1	 	
Muskego, ponded	30	  Very limited	i	  Very limited	i	  Very limited	i
	į	Seepage	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Restricted	1.00	Depth to	1.00
		Depth to	1.00	permeability	1	saturated zone	
	ļ	saturated zone		Depth to	1.00	Low adsorption	1.00
		Low adsorption Too level	1.00	saturated zone	!	Restricted permeability	0.96
		100 16461	10.30	 	1	permeability	i
Blue Earth, ponded	30	  Very limited	i	  Very limited	i	  Very limited	i
	į	Seepage	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to	1.00	Depth to	1.00
	ļ	Depth to	1.00	saturated zone	!	saturated zone	!
	!	saturated zone		Restricted	1.00		!
		Too level	0.50	permeability		 	
Houghton, ponded	l   30	  Verv limited		  Very limited	1	  Very limited	i
and a grand and a grand a		Ponding	1.00	Ponding	1.00	Ponding	1.00
	j	Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
	!	:	1.00	Restricted	0.69	Low adsorption	1.00
			1.00	permeability			!
		Too level	0.50	 	1	 	
Klossner, ponded	10	  Very limited	i	  Very limited	i	  Very limited	i
	İ	Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to	1.00	Depth to	1.00	Depth to	1.00
	ļ	saturated zone	!	saturated zone	!	saturated zone	!
		:	11.00	Restricted	1.00	Low adsorption	1.00
	l I	Seepage   Too level	1.00	permeability		 	-
	i	100 16461	1	! 	1	 	i
L26B:	İ		i		i	İ	i
Shorewood	90	Very limited	Ì	Very limited	İ	Very limited	Ì
	ļ	Depth to	1.00	Restricted	1.00	Depth to	1.00
		saturated zone		permeability		saturated zone	
	!	Seepage	0.77	Depth to saturated zone	1.00	Restricted	0.60
	l I	 		saturated zone		permeability Too steep for	10.08
	i	! 	i	! 	i	surface	
	į	İ	į	İ	į	application	į
					1		
Good Thunder	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to	0.87	Restricted	1.00	Depth to	0.87
	I I	saturated zone Seepage	  0.69	permeability   Depth to	1.00	saturated zone Restricted	0.43
	i			saturated zone		permeability	
		:	:	•	:	·	

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map	of wastewater		   Rapid infiltrati   of wastewater 		Slow rate treatm   of wastewater 	
	unit   			   Rating class and   limiting features		   Rating class and   limiting features	Value
L26B: Minnetonka	   5       	saturated zone Seepage	    1.00    0.77  0.07	  Very limited   Restricted   permeability   Depth to   saturated zone	      1.00    1.00	Very limited   Depth to   saturated zone   Restricted   permeability   Too acid	    1.00    0.96    0.07
L36A: Hamel, overwash	   50     	Seepage	      1.00  1.00	  Very limited   Restricted   permeability   Depth to   saturated zone	    1.00    1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.21
Hamel	   43       	Seepage	    1.00  1.00 	Very limited   Restricted   permeability   Depth to   saturated zone	    1.00    1.00	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21
Terril	   5     		    1.00  0.05 	   Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00	  Somewhat limited   Depth to   saturated zone 	  0.05   
Glencoe	   2         	Depth to saturated zone Ponding	  1.00  1.00    1.00  0.50	saturated zone Restricted permeability	  1.00    1.00    1.00	  Very limited   Depth to   saturated zone   Ponding	  1.00    1.00 
L40B: Angus	   45       		    1.00  0.05   	! -	    1.00    1.00	  Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	    0.08      0.05
Kilkenny	   40         	Depth to saturated zone Seepage	  1.00    0.69  0.21	permeability Depth to	    1.00    1.00	   Very limited   Depth to   saturated zone   Too acid   Restricted   permeability	  1.00    0.21  0.21
Lerdal	   10       	Seepage Depth to saturated zone	  1.00  1.00    0.14	permeability Depth to	  1.00    1.00 	Very limited Depth to saturated zone Restricted permeability Too acid	  1.00    0.94    0.14
Mazaska	   5       	saturated zone	    1.00    0.69 	permeability	  1.00    1.00 	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.96 

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map	of wastewater		Rapid infiltrati of wastewater		Slow rate treatm	
	unit   	'	•	Rating class and   limiting features		Rating class and   limiting features	Value
L41C2: Lester, eroded	   45           	  Very limited   Seepage   Too steep for   surface   application	    1.00  0.50   	1	      1.00    1.00 	surface	    1.00      0.50
Kilkenny, eroded	   40                 	Somewhat limited   Depth to   saturated zone   Seepage   Too steep for   surface   application   Too acid	   0.86   0.69   0.50     0.21	permeability Slope Depth to saturated zone	   1.00   1.00   0.14 	surface application	   1.00     0.86     0.50     0.21   0.21
Terril	   10       	  Very limited   Seepage   Depth to   saturated zone	  1.00  0.05 	! -	  1.00    1.00	  Somewhat limited   Depth to   saturated zone 	  0.05   
Derrynane	   5       	  Very limited   Depth to   saturated zone   Seepage	  1.00    0.39	permeability	    1.00    1.00	saturated zone	  1.00    0.43
L41D2: Lester, eroded	   45           	  Very limited   Seepage   Too steep for   surface   application	    1.00  1.00   	! -	    1.00  1.00   	· -	    1.00      1.00
Kilkenny, eroded	   35                 	Too steep for surface application Depth to saturated zone Seepage	   1.00     0.86   0.69   0.21	Restricted permeability Depth to saturated zone	   1.00   1.00   0.14 	  Very limited   Too steep for   surface   application	  1.00    1.00      0.86    0.21
Terril	   10         	Seepage	  1.00  0.05   	! =	  1.00    1.00 	  Somewhat limited   Depth to   saturated zone   	  0.05     

Table 11b.--Agricultural Waste Management--Continued

	Pct. of map	of wastewater		Rapid infiltrati of wastewater		Slow rate treatment of wastewater	
	unit   	'		   Rating class and   limiting features		Rating class and limiting features	Value
L41D2: Derrynane	   5     	saturated zone	      1.00    0.39	permeability	      1.00    1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.43
Ridgeton	   5           		  1.00  0.78       		  1.00  1.00   	-	  1.00      0.78
L41E: Lester	   45         	Seepage	  1.00  1.00     		  1.00  1.00     	Very limited   Too steep for surface   application   Too steep for sprinkler   application	  1.00      1.00
Kilkenny	   40                 	Too steep for surface application Depth to saturated zone Seepage	  1.00    0.86    0.69  0.21 	Restricted permeability	  1.00  1.00    0.14   	Very limited  Too steep for surface application Too steep for sprinkler application Depth to saturated zone Too acid Restricted permeability	   1.00   1.00   1.00   1.00   0.86   0.21   0.21
Terril	   5     		    1.00  0.05 	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00	  Somewhat limited   Depth to   saturated zone   	  0.05   
Derrynane	   5     	   Very limited   Depth to   saturated zone   Seepage	    1.00    0.39	permeability	    1.00    1.00	Very limited Depth to saturated zone Restricted permeability	  1.00    0.43
Ridgeton	   5           		    1.00  1.00       		    1.00  1.00       	Very limited Too steep for surface application Too steep for sprinkler application	  1.00      1.00 

Table 11b.--Agricultural Waste Management--Continued

	Pct. of	Overland flow of wastewater		Rapid infiltrati of wastewater	on	Slow rate treatm of wastewater	
-	map			İ		İ	
	unit			<u> </u>		<u> </u>	
	 	Rating class and   limiting features	•	Rating class and   limiting features		Rating class and   limiting features	Value
			Ī	 	Ī		Ī
L48A:		[	[	[		[	1
Derrynane, overwash	50		:	Very limited		Very limited	
		Depth to	1.00		1.00	Depth to saturated zone	1.00
	 	saturated zone Seepage	0.39	permeability Depth to	1.00	Restricted	0.43
		beepage 		saturated zone		permeability	
P							
Derrynane	4±0 	Depth to	1 1.00	Very limited   Restricted	1.00	Very limited   Depth to	1
	 	saturated zone	1	permeability	1	saturated zone	1
	i I	Seepage	0.39	! -	1.00	Restricted	0.43
	į			saturated zone		permeability	
Glencoe	   5	  Very limited	 	  Very limited	l I	  Very limited	
02011000		Depth to	1.00	! -	1.00	! -	1.00
	i	saturated zone	i	saturated zone	i	saturated zone	i
	ĺ	Seepage	1.00	Restricted	1.00	Ponding	1.00
		Ponding	1.00				
	 	Too level	0.50	Ponding	1.00	 	
Terril	   5	  Very limited		  Very limited		  Somewhat limited	
		Seepage	1.00	Depth to	1.00	Too steep for	0.08
		Depth to	0.05	!		surface	1
		saturated zone	ļ	Restricted	1.00	application	
	l I	 	 	permeability	l I	Depth to saturated zone	0.05
		 	İ	 			i
L49A:			ļ		ļ		ļ
Klossner, surface			!				!
drained	65 	very limited   Depth to	1.00	Very limited   Depth to	1.00	Very limited   Depth to	1
	 	saturated zone	1	saturated zone	1	saturated zone	1
	i	Low adsorption	1.00	!	1.00	Low adsorption	1.00
	i	Seepage	1.00	permeability	i	Ponding	1.00
	ĺ	Ponding	1.00	Ponding	1.00	İ	İ
		Too level	0.50	 		 	
Klossner, drained	20	  Very limited		  Very limited		  Very limited	i
	İ	Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Low adsorption	1.00	!	1.00	Low adsorption	1.00
		Seepage	1.00			Ponding	11.00
	 	Ponding Too level	1.00  0.50	•	1.00 	Too acid 	0.21
	į	-	į	İ	į		į
Mineral soil, drained	   15	  Very limited	 	  Very limited	 	  Very limited	
ar armed	-2	• -	1.00	•	1.00		1 1.00
	i		1.00			saturated zone	
	İ	saturated zone	į	Restricted	1.00	Ponding	1.00
	I	Ponding	1.00	permeability	I	I	1
	ı	l ronaring	1 - 00	permeability	1	l	1

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map	Overland flow of wastewater		Rapid infiltrati of wastewater		Slow rate treatm of wastewater	
	unit   	'	Value	Rating class and   limiting features	•	   Rating class and   limiting features	Value
L50A: Houghton, surface drained		    Very limited		    Very limited		    Very limited	
urameu	<del>1</del> 0 	Depth to saturated zone	1.00	! -	1.00		1.00
	 		1.00	Restricted	1.00  0.69	Low adsorption Ponding	1.00
		-	1.00	: -		 	
Muskego, surface	 			 			
drained	40	: -	:	Very limited	:	Very limited	
		Seepage Depth to	1.00	!	1.00	Depth to saturated zone	1.00
	l I	saturated zone	1	Depth to	1		1
			1.00	!	1	Ponding	11.00
	i		1.00		1.00		0.96
	į	Too level	0.50	!		permeability	
Klossner, drained	1 10	  Very limited	i	  Very limited		  Very limited	i
		Depth to	1.00	:	1.00	!	1.00
		saturated zone		saturated zone		saturated zone	
		Low adsorption	1.00	!	1.00		1.00
		Seepage Ponding	1.00		1	Ponding Too acid	1.00
		Too level	0.50	!		100 acid	
Mineral soil,	 	 	 	 	 	 	
drained	10	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to	1.00	Depth to	1.00
		Depth to	1.00	!		saturated zone	
		saturated zone		Restricted	1.00	Ponding	1.00
	 	Ponding Too level	1.00  0.50	! -	  1.00	 	
L51C2:	į		į	İ	į		į
Gladek, eroded	80	  Very limited		  Very limited		  Very limited	
		Seepage	1.00	!	1.00	Too steep for	1.00
		Too steep for	0.50	! -		surface	ļ
		surface		Slope	1.00	application	
		application		l I		Too steep for	0.50
						sprinkler   application	
Barrington	   10	  Very limited	 	  Very limited	 	  Somewhat limited	
		Seepage	1.00	Depth to	1.00	Depth to	0.87
	ļ		0.87		!	saturated zone	!
		saturated zone	!	Restricted	1.00	Too steep for	0.08
	 	 	 	permeability 	 	surface   application	
Lester, eroded	   5	  Very limited	 	  Very limited	 	  Very limited	
	i	Seepage	1.00	! -	1.00	! -	1.00
	i	Too steep for	0.50	permeability	i	surface	i
		surface		Slope	1.00	application	1
		application	1			Too steep for	0.50
	ļ	Too acid	0.01	ļ	ļ.	sprinkler	ļ
	1	I	1	I		application	1
	i	i	i	I .	1	Too acid	0.01

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map	of wastewater		Rapid infiltrati of wastewater		Slow rate treatm   of wastewater	
	unit   	Rating class and   limiting features	Value	Rating class and   limiting features	Value	Rating class and   limiting features	Value
L51C2: Madelia	   5     	  Very limited   Depth to   saturated zone   Seepage	    1.00    1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00	  Very limited   Depth to   saturated zone 	      1.00   
L56A: Muskego, frequently flooded	       45	! =	:	      Very limited	:	      Very limited	     
	           	Flooding   Seepage   Depth to   saturated zone   Low adsorption   Ponding	1.00  1.00  1.00    1.00  1.00	Flooding   Restricted   permeability   Depth to   saturated zone   Ponding	1.00  1.00    1.00    1.00 	Depth to saturated zone Low adsorption Flooding Ponding Restricted permeability	1.00    1.00  1.00  1.00  0.96
Klossner, frequently flooded		Very limited   Flooding   Depth to   saturated zone   Low adsorption   Seepage   Ponding	  1.00  1.00    1.00  1.00		  1.00  1.00    1.00    1.00	Very limited   Depth to   saturated zone   Low adsorption   Flooding   Ponding	  1.00    1.00  1.00  1.00
Suckercreek, frequently flooded	   10           	  Very limited   Flooding   Seepage   Depth to   saturated zone   Too level	  1.00  1.00  1.00    0.50	  Very limited   Flooding   Depth to   saturated zone   Restricted   permeability	  1.00  1.00    0.31	  Very limited   Depth to   saturated zone   Flooding   Filtering   capacity	  1.00    1.00  0.01
L57A: Medo, drained	   80           	Very limited   Depth to   saturated zone   Low adsorption   Seepage   Ponding   Too level	   1.00   1.00   1.00   1.00   0.50	  Very limited   Depth to   saturated zone   Ponding   Restricted   permeability	    1.00    1.00  0.68   	  Not rated               	
Mineral soil, drained	   15         	  Very limited   Seepage   Depth to   saturated zone   Ponding   Too level	  1.00  1.00    1.00  0.50	  Very limited   Depth to   saturated zone   Ponding   Restricted   permeability	  1.00    1.00  0.31	  Very limited   Filtering   capacity   Depth to   saturated zone   Ponding	  1.00    1.00    1.00
Houghton, drained	   5           	  Very limited   Depth to   saturated zone   Low adsorption   Seepage   Ponding   Too level	  1.00    1.00  1.00  1.00  0.50	  Very limited   Depth to   saturated zone   Ponding   Restricted   permeability	  1.00    1.00  0.69   	  Very limited   Depth to   saturated zone   Low adsorption   Ponding   Too acid	  1.00    1.00  1.00  0.31

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of	Overland flow of wastewater		Rapid infiltrati of wastewater		Slow rate treatm	
	map	[		[			
	unit	'					
	 	Rating class and   limiting features		Rating class and limiting features		Rating class and   limiting features	Value
	!	!	ļ.	!	ļ	!	
L63A:			!				!
Klossner	85 	Very limited   Depth to	1	Very limited	1.00	Very limited   Depth to	11.00
	 	saturated zone	1	Depth to saturated zone	1 .00	saturated zone	11.00
	I I	Low adsorption	1		1	Low adsorption	11.00
	 	·	11.00	!	1	Ponding	11.00
	į	Ponding	1.00	! -	1.00		
Lura	   10	  Very limited	 	  Very limited	 	  Very limited	
	İ	Depth to	1.00	Restricted	1.00	Depth to	1.00
	ĺ	saturated zone	İ	permeability	ĺ	saturated zone	ĺ
		Ponding	1.00	Depth to	1.00	Ponding	1.00
				saturated zone		Restricted	0.94
	 	 	 	Ponding	1.00	permeability	
Brownton	l I 5	  Very limited	i	  Very limited	i	  Very limited	i
	i	Depth to	1.00	Restricted	1.00	Depth to	1.00
	i	saturated zone	i	permeability	İ	saturated zone	İ
	İ	İ	į	Depth to	1.00	Restricted	0.94
		  -	Ì	saturated zone	İ	permeability	İ
L64A:	 	 		 		 	
Tadkee	50	Very limited		Very limited		Very limited	
		!	1.00	! -	1.00	!	1.00
	ļ	Depth to	1.00	saturated zone		capacity	1
	 	saturated zone	 	Restricted permeability	1.00 	Depth to saturated zone	1.00
m. 31 3		 	Ì	 	İ	 	İ
Tadkee, depressional	36 	very limited   Depth to	1	Very limited   Depth to	1.00	Very limited	11.00
	l I	saturated zone	1	saturated zone	1	Filtering   capacity	1
	 	Seepage	1		11.00	Depth to	11.00
	i	!	1.00	!		saturated zone	
	į	Too level	0.50	! -	1.00	Ponding	1.00
Better drained soil	   8	  Very limited	 	  Very limited	 	  Very limited	 
	i	Seepage	1.00	Depth to	1.00	Filtering	1.00
	ĺ	Depth to	0.87	saturated zone	ĺ	capacity	ĺ
		saturated zone		Restricted	1.00	Depth to	0.87
	 	 		permeability	 	saturated zone	
Granby	4	  Very limited	1	  Very limited	1	  Very limited	
	ļ	•	1.00	•	1.00	•	1.00
	!	Depth to	1.00	•		capacity	
		saturated zone		Ponding	1.00		1.00
	 	Ponding Too level	1.00  0.50	•	 	saturated zone Ponding	1   1.00
Togg gandr1		 		 		 	
Less sandy soil	<u>4</u> 	Very limited	1.00	Very limited   Depth to	  1.00	Very limited	1.00
	I I		1.00		±.00	Filtering   capacity	1 - 00
	! 	saturated zone	1	Restricted	1.00	Depth to	1 1.00
	i		i	permeability		saturated zone	
	i	i İ	i		i		i

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map unit	of wastewater		Rapid infiltration   of wastewater 		Slow rate treatm   of wastewater 	
	unit   		Value	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value
L73A: Blue Earth	   80         	Depth to   saturated zone   Seepage	    1.00    1.00  1.00	saturated zone	    1.00    1.00 	  Very limited   Depth to   saturated zone   Ponding	    1.00    1.00
Belleville	   10         	Seepage	    1.00  1.00 	  Very limited   Restricted	    1.00    1.00	capacity Depth to saturated zone Restricted	  1.00    1.00    0.21
Canisteo	   10   1   	Depth to saturated zone	      1.00    1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00	permeability    Very limited   Depth to   saturated zone	    1.00   
L74A: Estherville	     87 	    Very limited   Seepage 	      1.00	    Somewhat limited   Restricted   permeability	      0.32	    Very limited   Filtering   capacity	      1.00
Hawick	   10   	  Very limited   Seepage 	    1.00 	  Not limited   	     	  Very limited   Filtering   capacity	    1.00 
Biscay	   3       	  Very limited   Depth to   saturated zone   Seepage	    1.00    1.00	saturated zone	  1.00    1.00	  Very limited   Depth to   saturated zone   Filtering   capacity	  1.00    1.00
L75B: Barrington	   85         		    1.00  0.87   		    1.00    1.00	saturated zone	    0.87    0.08
Gladek	   10           	Seepage	  1.00  0.50   	•	  1.00    1.00   	  Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      0.50
Madelia	   5       	saturated zone	  1.00    1.00	saturated zone	  1.00    1.00	  Very limited   Depth to   saturated zone 	    1.00   

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map unit	of wastewater		Rapid infiltrati   of wastewater 		Slow rate treatm   of wastewater 	
	   	Rating class and	,	Rating class and   limiting features	•		
L76B: Dickinson	   80           	Seepage	,	  Somewhat limited   Restricted   permeability   		  Very limited   Filtering   capacity   Too steep for   surface   application   Too acid	    1.00    0.08      0.01
Litchfield	   13         	Seepage	1.00	Restricted	1.00	Very limited   Filtering   capacity   Depth to   saturated zone   Too acid	    1.00    1.00    0.07
Darfur	   5     	Depth to saturated zone	1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	:	  Very limited   Depth to   saturated zone   	  1.00   
Clarion	   2         	Seepage	1.00		!	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
L77A: Brownton	   75       		:	  Very limited   Restricted   permeability   Depth to   saturated zone	1.00    1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.94
Marna	   15       		:	Very limited   Restricted   permeability   Depth to   saturated zone	1.00    1.00	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96
Lura	   10         	Depth to saturated zone	1.00	Very limited   Restricted   permeability   Depth to   saturated zone   Ponding	  1.00    1.00    1.00	saturated zone Ponding Restricted	  1.00    1.00  0.94
L78A: Canisteo	   65       	Depth to saturated zone		  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00	  Very limited   Depth to   saturated zone	    1.00   
Crippin	   10         	  Very limited   Depth to   saturated zone   Seepage 	  1.00    1.00 	saturated zone	  1.00    1.00 	  Very limited   Depth to   saturated zone     	  1.00     

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map	of wastewater		Rapid infiltration   of wastewater 		Slow rate treatment   of wastewater 	
	unit   		Value	   Rating class and   limiting features	•	   Rating class and   limiting features	Value
L78A: Glencoe	   10   10       	Depth to   saturated zone   Seepage   Ponding	    1.00    1.00  1.00  0.50	aturated zone Restricted permeability	    1.00    1.00    1.00	  Very limited   Depth to   saturated zone   Ponding	    1.00    1.00
Canisteo, depressional	   5       	  Very limited   Depth to   saturated zone   Seepage	    1.00    1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00	  Very limited   Depth to   saturated zone 	1.00
Harps	   5       	  Very limited   Seepage   Depth to   saturated zone	    1.00  1.00 	! · · · · · · · · · · · · · · · · · · ·	    1.00    1.00	  Very limited   Depth to   saturated zone 	  1.00   
Webster	   5     	  Very limited   Depth to   saturated zone   Seepage	  1.00    1.00	   Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00	  Very limited   Depth to   saturated zone	  1.00   
L79B: Clarion	     65       	Seepage	    1.00  0.05   	! -	    1.00    1.00	  Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	    0.08      0.05
Clarion, eroded	   25         	! - T	  1.00  0.05   		  1.00    1.00 	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
Nicollet	   8       	saturated zone	1.00	Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00	  Very limited   Depth to   saturated zone 	  1.00   
Webster	   2       	saturated zone	    1.00    1.00	saturated zone	    1.00    1.00 	Very limited Depth to saturated zone	  1.00     

Table 11b.--Agricultural Waste Management--Continued

component name	Pct.   Overland flow     of   of wastewater     map			Rapid infiltrati of wastewater		Slow rate treatm   of wastewater 	
	unit   	'		   Rating class and   limiting features		Rating class and limiting features	
Lester, eroded	   75 		    1.00	  Very limited   Restricted	    1.00	  Very limited   Too steep for	    1.00
	 	surface	0.50	permeability Slope	  1.00	surface application	İ İ
	   	application Too acid	  0.01 	 	   	Too steep for sprinkler application	0.50   
	 	 	 	 	 	Too acid	0.01
Terril	10   		  1.00  0.05	! -	  1.00 	Somewhat limited   Too steep for   surface	  0.32 
	   	saturated zone   	   	Restricted   permeability   Slope	1.00    0.12	Depth to	  0.05 
Hamel	   5	  Very limited		  Very limited	:	  Very limited	
	   	!	1.00  1.00		1.00    1.00	Depth to   saturated zone   Restricted	1.00    0.21
	i I	i I	j I	saturated zone	j I	permeability	j I
Reedslake	5     		  1.00  0.05		  1.00    1.00	surface	  0.08 
	;   	 	;   	permeability	;   	Depth to saturated zone	0.05
Storden, eroded	   5   	Seepage   Too steep for	  1.00  0.50	permeability	1.00 	surface	1.00
	       	surface   application   	       	Slope     	1.00       	application   Too steep for   sprinkler   application	  0.50   
L80D2: Lester, eroded	   75	  -	į	    Very limited	į	  Very limited	į
Lester, eroded	73     	Seepage	  1.00  1.00 	Slope	  1.00  1.00 	Too steep for	  1.00   
	   	application Too acid	0.01	 	   	Too steep for sprinkler application	1.00
		 		 		Too acid	0.01
Ridgeton	10     	Very limited   Seepage   Too steep for   surface	  1.00  1.00		  1.00  1.00 	Very limited   Too steep for   surface   application	  1.00 
	     	application	     	-   	     	Too steep for sprinkler application	1.00

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map	of wastewater		Rapid infiltrati of wastewater		Slow rate treatm of wastewater	
	unit   	'	Value	   Rating class and   limiting features		   Rating class and   limiting features	Value
L80D2: Storden, eroded	   8 	Seepage	    1.00  1.00	· -	    1.00  1.00	  Very limited   Too steep for   surface	    1.00
	       	surface   application 	       	permeability		application Too steep for sprinkler application	1.00
Terril	   5   		    1.00  0.05	! -	    1.00 	  Somewhat limited   Too steep for   surface	    0.32 
	   	saturated zone	   	Restricted permeability Slope	1.00    0.12	Depth to	  0.05 
Hamel	   2     		    1.00  1.00 	Restricted	    1.00    1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21
	İ	 		sacuraced zone		permeability	
L81A: Cordova	   85 		    1.00	  Very limited   Restricted	    1.00	  Very limited   Depth to	    1.00
	   	saturated zone	  0.69 	permeability	  1.00 	saturated zone   Restricted   permeability	0.21
Le Sueur	   10   	Seepage	    1.00  1.00	! -	    1.00	  Very limited   Depth to   saturated zone	    1.00
	   	saturated zone Too acid	  0.01	Restricted permeability	1.00	Too acid	0.01
Rolfe	5   		  1.00  1.00	!	  1.00 	  Very limited   Depth to   saturated zone	  1.00 
	     	saturated zone Ponding Too acid	  1.00  0.07 	Depth to saturated zone Ponding	1.00    1.00 	Restricted	1.00  0.96    0.07
L82A: Marna	     85 	    Very limited   Depth to	      1.00	!	1		1.00
	   	saturated zone	   	permeability Depth to saturated zone	  1.00 	saturated zone   Restricted   permeability	  0.96 
Barbert	   10 	  Very limited   Depth to   saturated zone	    1.00	  Very limited   Restricted   permeability	1   1.00	  Very limited   Depth to   saturated zone	    1.00
	     	Seepage	1.00  1.00  0.42	: -	1.00    1.00	!	1.00
	į	  -	į	-   	į	Too acid	0.42

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map unit	of wastewater		Rapid infiltrati of wastewater		Slow rate treatm of wastewater	
	ļ L			Rating class and   limiting features		Rating class and limiting features	Value
L82A: Guckeen	   5     	  Very limited   Depth to   saturated zone   Seepage	1.00	  Very limited   Restricted   permeability   Depth to   saturated zone		  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.43
L83A:	į	  -	į	İ	į		į
Webster	   65       	  Very limited   Depth to   saturated zone   Seepage	1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    1.00	  Very limited   Depth to   saturated zone   	  1.00   
Glencoe	   15         	   Very limited   Depth to   saturated zone   Seepage   Ponding   Too level	1.00    1.00  1.00	   Very limited   Depth to   saturated zone   Restricted   permeability   Ponding	1.00	   Very limited   Depth to   saturated zone   Ponding 	  1.00    1.00 
Canisteo	   10       	  Very limited   Depth to   saturated zone   Seepage	1.00	Depth to saturated zone	  1.00    1.00	  Very limited   Depth to   saturated zone   	    1.00   
Nicollet	   10       	  Very limited   Depth to   saturated zone   Seepage	:	  Very limited   Depth to   saturated zone   Restricted   permeability	:	  Very limited   Depth to   saturated zone 	  1.00   
L84A:	ŀ	 		 		 	
Glencoe	80           	Very limited	1.00	permeability	1.00	Very limited   Depth to   saturated zone   Ponding 	  1.00    1.00 
Very poorly drained			į		į		į
muck	10         	Very limited   Depth to   saturated zone   Low adsorption   Seepage   Ponding	1.00	saturated zone Restricted permeability	1.00	Very limited   Depth to   saturated zone   Low adsorption   Ponding	  1.00    1.00  1.00
Canisteo	   5     	  Very limited   Depth to   saturated zone   Seepage	  1.00    1.00	saturated zone	  1.00    1.00	  Very limited   Depth to   saturated zone   	  1.00   
Harps	   5       	Very limited Seepage Depth to saturated zone	  1.00  1.00 		  1.00    1.00	  Very limited   Depth to   saturated zone   	  1.00     

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map	of wastewater		Rapid infiltrati of wastewater		Slow rate treatm of wastewater	
	unit   		•	   Rating class and   limiting features		Rating class and limiting features	Value
L85A: Nicollet	   85       	Depth to saturated zone	    1.00    1.00	saturated zone	    1.00    1.00	  Very limited   Depth to   saturated zone 	      1.00   
Clarion	   10         	Seepage	  1.00  0.05   	! =	  1.00    1.00 	surface	  0.08      0.05
Webster	   5       	   Very limited   Depth to   saturated zone   Seepage 	  1.00    1.00 	saturated zone	  1.00    1.00 	  Very limited   Depth to   saturated zone   	    1.00     
L86A: Madelia	   90       	saturated zone	    1.00    1.00	saturated zone	    1.00    1.00	  Very limited   Depth to   saturated zone 	    1.00   
Okoboji	   5       	saturated zone Ponding	  1.00    1.00  0.77	permeability Depth to saturated zone	  1.00    1.00    1.00	saturated zone	  1.00    1.00  0.15
Spicer	   3     	   Very limited   Depth to   saturated zone   Seepage	  1.00    1.00	saturated zone	  1.00    1.00	  Very limited   Depth to   saturated zone 	  1.00   
Kingston	   2       	  Very limited   Seepage   Depth to   saturated zone 	    1.00  1.00   	•	    1.00    1.00 	  Very limited   Depth to   saturated zone   	  1.00     
L87A: Kingston	   85       	Seepage	    1.00  1.00 	! =	    1.00    1.00	  Very limited   Depth to   saturated zone	    1.00     
Truman	   10           	Seepage	  1.00  0.05     	! =	  1.00    1.00   	surface	  0.08      0.05

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of	of wastewater		   Rapid infiltration   of wastewater		   Slow rate treatm   of wastewater	
	unit   		Value	   Rating class and   limiting features	•	Rating class and limiting features	Value
L87A: Madelia	   5       	saturated zone	      1.00    1.00	Very limited Depth to saturated zone Restricted permeability	      1.00    1.00	  Very limited   Depth to   saturated zone 	      1.00     
L88A: Lura	   85           	saturated zone	    1.00    1.00 	permeability Depth to saturated zone	    1.00    1.00    1.00	saturated zone Ponding Restricted	  1.00    1.00  0.94
Brownton	   10         	-	  1.00       	permeability	  1.00    1.00 	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.94 
Organic soil	;             	saturated zone Low adsorption Seepage	  1.00    1.00  1.00  1.00	permeability Depth to saturated zone	  1.00    1.00    1.00	Very limited    Depth to     saturated zone     Low adsorption     Ponding     Restricted     permeability	  1.00    1.00  1.00  0.60
L89A: Guckeen	   82         	Depth to saturated zone	    1.00    0.69	  Very limited   Restricted   permeability   Depth to   saturated zone	    1.00    1.00	   Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.43
Marna	   10       	  Very limited   Depth to   saturated zone   	    1.00     	permeability	  1.00    1.00 	   Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96
Clarion clay loam	   8         		  1.00  0.05   	saturated zone	  1.00    1.00 	surface	  0.08      0.05
L90A: Le Sueur	   75       	Seepage Depth to saturated zone	      1.00  1.00    0.01	saturated zone	      1.00    1.00	  Very limited   Depth to   saturated zone   Too acid	    1.00    0.01
Cordova	   13       	Depth to saturated zone	    1.00    0.69 	permeability	    1.00    1.00 	   Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21 

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map unit	of wastewater		Rapid infiltrati of wastewater		Slow rate treatm   of wastewater 	
	   		Value	Rating class and   limiting features		Rating class and limiting features	Value
L90A: Reedslake	   12	  Verv limited		  Very limited		  Somewhat limited	
	i		1.00	Depth to	1.00	Too steep for	0.08
	ĺ	Depth to	0.05	saturated zone	Ì	surface	ĺ
	ļ	saturated zone	!	Restricted	1.00	application	ļ
	 		ļ !	permeability 	 	Depth to saturated zone	0.05
L91A:		 		 		 	
Mazaska	85	  Very limited	i	  Very limited	i	  Very limited	i
	ĺ	Depth to	1.00	Restricted	1.00	Depth to	1.00
	ļ	saturated zone	!	permeability	!	saturated zone	
	 	Seepage 	0.69 	Depth to saturated zone	1.00 	Restricted   permeability	0.96 
Lerdal		  Vory limited		  Very limited		  Very limited	
nerdar	1 10	Depth to	1		1		1.00
	i	saturated zone		permeability		saturated zone	
	į	Seepage	1.00	Depth to	1.00	Restricted	0.94
		Too acid	0.14	saturated zone		permeability	ļ
	 	 	 	 	l I	Too acid	0.14
Rolfe	5	  Very limited	i	  Very limited	<u> </u>	  Very limited	i
		Seepage	1.00	Restricted	1.00	Depth to	1.00
	ļ	Depth to	1.00	permeability	!	saturated zone	!
		saturated zone	1.00	Depth to	1.00	!	1.00
		Ponding Too acid	0.07	saturated zone Ponding	11.00	Restricted permeability	0.96
	į					Too acid	0.07
L92A:	 	 		 	 	 	
	78	  Very limited	i	  Very limited	i	  Very limited	i
		Depth to	1.00	Depth to	1.00	Depth to	1.00
	ļ	saturated zone		saturated zone		saturated zone	!
	 	Seepage 	1.00 	Restricted   permeability	1.00 	 	
Fieldon	   10	  Verv limited		  Very limited		  Very limited	
	i	Depth to	1.00		1.00		1.00
	į	saturated zone	İ	saturated zone	į	saturated zone	İ
	 	Seepage	1.00 	Restricted permeability	1.00 	Filtering   capacity	1.00 
-1. 16. 1-	į _		į	į	į	İ	į
Litchfield	5	Very limited	•	Very limited	1.00	Very limited	
		Seepage Depth to	1.00  1.00	! -	1	Filtering   capacity	1.00
	i	saturated zone		Restricted	1.00	Depth to	1.00
	İ	Too acid	0.07	permeability	İ	saturated zone	İ
		 	 	 	 	Too acid 	0.07
Webster	5	  Very limited		  Very limited		  Very limited	
		Depth to	1.00		1.00		1.00
	ļ	saturated zone		saturated zone		saturated zone	ļ
		Seepage	1.00	!	1.00	 	
	!	] i	1	permeability	!	<u> </u>	!

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map	Overland flow of wastewater		Rapid infiltrati of wastewater		Slow rate treatm of wastewater	
	unit	İ		İ		İ	
	 	Rating class and   limiting features	Value 	Rating class and   limiting features	Value 	Rating class and   limiting features	Value
	i		i		i		1
L92A:	ĺ	İ	Ì	İ	Ì	ĺ	Ì
Dassel	2	Very limited		Very limited		Very limited	
	ļ		1.00	! -	1.00	! -	1.00
		<u>.                                      </u>	1.00	!	11 00	saturated zone	
		saturated zone	1.00	Ponding Restricted	1.00  0.32	Ponding Filtering	1.00
	ŀ		1	permeability		capacity	1
	i	! 	i		i		i
L93A:	į	İ	j	İ	j	İ	į
Muskego	82	Very limited		Very limited		Very limited	1
			1.00	!	1.00	! -	1.00
	ļ	<u>.                                      </u>	1.00	!		saturated zone	
		saturated zone	11 00	Depth to	1.00	Low adsorption Ponding	11.00
	 	<u>-</u>	1.00  1.00	!	1.00	Ponding   Restricted	1.00
	l	Foliating	1	ronaing	1	permeability	10.54
	i	 	i	 	i		i
Blue Earth	10	  Very limited	i	  Very limited	i	  Very limited	İ
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
	ļ		1.00	!	1.00	Ponding	1.00
		Ponding	1.00				!
		İ	l I	Ponding	1.00	l I	!
Mineral soil,		 	i	 	i	 	1
drained	5	  Very limited	i	  Very limited	i	  Very limited	i
	į	Seepage	1.00	Depth to	1.00	Depth to	1.00
		Depth to	1.00	saturated zone		saturated zone	1
		saturated zone		Restricted	1.00	Ponding	1.00
	ļ		1.00	:			ļ
		Too level	0.50	Ponding	1.00		
Belleville	   3	  Very limited		  Very limited		  Very limited	1
DOILGVILLE			1.00	! -	1.00	1 7	1.00
	i		1.00	!	i	capacity	i
	ĺ	saturated zone	Ì	Depth to	1.00	Depth to	1.00
				saturated zone		saturated zone	
	ļ		ļ		ļ	Restricted	0.21
		 		 		permeability	
L94A:		 		 		 	i
Lowlein	l l 75	  Very limited	i	  Very limited	i	  Somewhat limited	i
	i		1.00	:	1.00	Depth to	0.87
	ĺ	Depth to	0.87	saturated zone	ĺ	saturated zone	Ì
		saturated zone		Restricted	1.00		
	ļ		ļ	permeability	ļ		ļ
T							!
Linder	1 12	Depth to	1.00	Very limited   Depth to	1.00	Very limited   Filtering	1 1.00
	l	saturated zone	1	saturated zone	1	capacity	1
	i	Seepage	1.00	!	1.00	Depth to	1.00
	İ	İ	İ	permeability	İ	saturated zone	İ
		]		!		!	
Dickinson	8	Very limited	1	Somewhat limited		Very limited	ļ.,
	ļ		1.00	!	0.32	!	1.00
		Too acid	0.01	permeability		capacity	10.00
		 		I I		Too steep for surface	0.08
		! 	i	! 	i	application	1
	i	İ	İ	į	İ	Too acid	0.01
	:			•		•	

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map	of wastewater		Rapid infiltrati of wastewater		Slow rate treatm	
	unit   			Rating class and   limiting features		   Rating class and   limiting features	Value
L94A: Darfur	   2       	saturated zone	      1.00    1.00	saturated zone	      1.00    1.00	  Very limited   Depth to   saturated zone	    1.00   
L95E: Hawick	   80             	Seepage	    1.00  1.00         	  Very limited   Slope             	    1.00           		    1.00    1.00    1.00
Estherville	10               	Seepage	  1.00  1.00         	!	  1.00  0.31       	!	  1.00    1.00      1.00
Tomall	   10       	! =	    1.00     	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00 	  Very limited   Filtering   capacity   	  1.00     
L96B: Estherville	   55       		    1.00     	  Somewhat limited   Restricted   permeability   	    0.32     	  Very limited   Filtering   capacity   Too steep for   surface   application	  1.00    0.08
Hawick	   35         	! -	    1.00       	  Not limited       	           	   Very limited   Filtering   capacity   Too steep for   surface   application	  1.00    0.08
Tomall	   8       	  Very limited   Seepage     	    1.00     	   Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00 	  Very limited   Filtering   capacity 	  1.00     
Biscay	2         	  Very limited   Depth to   saturated zone   Seepage 	  1.00    1.00 	saturated zone	  1.00    1.00 	saturated zone	  1.00    1.00 

Table 11b.--Agricultural Waste Management--Continued

component name	  Pct.   of  map  unit	of wastewater		   Rapid infiltrati   of wastewater 	on	   Slow rate treatm   of wastewater 	
	unic   		:	   Rating class and   limiting features		   Rating class and   limiting features	Value
L97C: Hawick	     60     	Seepage	      1.00  0.50 	! -	      1.00   	Very limited Filtering capacity Too steep for surface	      1.00    1.00
Esthowei 11 o	       	      -	       	       	       	application Too steep for sprinkler application	  0.50     
Estherville	30         	Seepage	  1.00  0.50     		  1.00  0.32     		  1.00      1.00    0.50
Tomall	       10     		          1.00   	saturated zone	        1.00    1.00	sprinkler application Very limited	        1.00
L98A: Crippin	     50     	Depth to saturated zone	      1.00    1.00	saturated zone	      1.00    1.00	  Very limited   Depth to   saturated zone 	      1.00   
Nicollet	   40       	Depth to saturated zone	    1.00    1.00	saturated zone	    1.00    1.00	   Very limited   Depth to   saturated zone 	    1.00   
Canisteo	   5       	saturated zone	  1.00 	saturated zone		  Very limited   Depth to   saturated zone 	    1.00     
Clarion	   5       			saturated zone	  1.00    1.00   	surface	  0.08      0.05
L99B: Clarion	   62           	Seepage	    1.00  0.05     	saturated zone	:	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05

Table 11b.--Agricultural Waste Management--Continued

	Pct. of map	of wastewater		Rapid infiltrati of wastewater		Slow rate treatm	
	unit   	'	Value	   Rating class and   limiting features		   Rating class and   limiting features	Value
L99B: Swanlake	   25       	Seepage	      1.00  0.05 	:	    1.00    1.00    0.12	surface application Depth to	    0.32      0.05
Nicollet	   10       	Depth to saturated zone	    1.00    1.00	  Very limited   Depth to   saturated zone	į	  Very limited	    1.00   
Webster	   3       	saturated zone	  1.00    1.00	saturated zone	  1.00    1.00 	  Very limited   Depth to   saturated zone   	  1.00     
L100B: Clarion	   45         	Seepage	    1.00  0.05   	!	    1.00    1.00	surface	  0.08      0.05
Estherville	   35       	! - T	    1.00     	  Somewhat limited   Restricted   permeability   	    0.32     	  Very limited   Filtering   capacity   Too steep for   surface   application	  1.00    0.08
Lowlein	   5       		    1.00  0.87 	:	    1.00    1.00	capacity	  1.00    0.87
Nicollet	   5     	saturated zone	    1.00    1.00	saturated zone	    1.00    1.00	   Very limited   Depth to   saturated zone 	  1.00   
Swanlake	   5       	!	    1.00  0.05   	! =	    1.00    1.00 	surface	  0.08      0.05
Webster	   5       	saturated zone	    1.00    1.00 	saturated zone	    1.00    1.00 	  Very limited   Depth to   saturated zone   	  1.00     

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map	of wastewater		Rapid infiltrati		Slow rate treatm   of wastewater 	
	unit   		Value	   Rating class and   limiting features		   Rating class and   limiting features	Value
L101C2: Omsrud, eroded	   40         	Seepage	    1.00  0.50   		    1.00    1.00	surface application Too steep for sprinkler	    1.00      0.50
Hawick	   30   1           	Seepage	    1.00  0.50       	! -	    1.00           	application    Very limited     Filtering     capacity     Too steep for     surface     application     Too steep for     sprinkler     application	  1.00    1.00      0.50
Storden, eroded	   20           	Seepage	  1.00  0.50   	!	  1.00    1.00   	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      0.50
Delft	   5     	saturated zone	  1.00    0.77	permeability	  1.00    1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.15
Terril	   5         	Seepage	  1.00  0.05   		  1.00    1.00 	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
L101D2: Omsrud, eroded	   40         	Seepage	  1.00  1.00     		  1.00  1.00     		  1.00      1.00
Hawick	   25               	!	  1.00  1.00             		  1.00               	Very limited   Filtering   capacity   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00    1.00      1.00

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map	Overland flow of wastewater		Rapid infiltrati of wastewater		Slow rate treatm of wastewater	
	unit   	Rating class and   limiting features	Value	Rating class and   limiting features		Rating class and   limiting features	Value
L101D2: Storden, eroded	   20         	Very limited Seepage Too steep for surface application	    1.00  1.00     	  Very limited   Slope   Restricted   permeability 	    1.00  1.00     	Very limited Too steep for surface application Too steep for sprinkler application	    1.00      1.00
Ridgeton	   6         	  Very limited   Seepage   Too steep for   surface   application	  1.00  1.00     	  Very limited   Slope   Restricted   permeability 	  1.00  1.00   	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00
Delft	   5     	  Very limited   Depth to   saturated zone   Seepage	  1.00    0.77	   Very limited   Restricted   permeability   Depth to   saturated zone	  1.00    1.00	   Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.15
Terril	   4         	  Very limited   Seepage   Depth to   saturated zone 	  1.00  0.05   		  1.00    1.00    0.12	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.32      0.05
L102C2: Omsrud, eroded	   45           	  Very limited   Seepage   Too steep for   surface   application	  1.00  0.50   	  Very limited   Restricted   permeability   Slope 	    1.00    1.00 	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      0.50
Storden, eroded	   25         	Very limited   Seepage   Too steep for   surface   application	  1.00  0.50   	  Very limited   Restricted   permeability   Slope 	  1.00    1.00 	surface	  1.00      0.50
Omsrud	   15         	  Very limited   Seepage   Too steep for   surface   application	  1.00  0.50   	  Very limited   Restricted   permeability   Slope 	  1.00    1.00 	surface	  1.00      0.50
Terril	   10           	  Very limited   Seepage   Depth to   saturated zone	    1.00  0.05     	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00 	  Somewhat limited   Too steep for   surface	  0.08      0.05

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map	of wastewater		Rapid infiltrati of wastewater		Slow rate treatm of wastewater	
	unit   	'		   Rating class and   limiting features		   Rating class and   limiting features	Value
L102C2: Delft	   5     	  Very limited   Depth to   saturated zone   Seepage	1.00	permeability	1.00	   Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.15
L102D2: Omsrud, eroded	   45           	  Very limited   Seepage   Too steep for   surface   application	    1.00  1.00   	· -	:	  Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	    1.00      1.00 
Storden, eroded	   20           	Very limited Seepage Too steep for surface application	  1.00  1.00     	!		Very limited Too steep for surface application Too steep for sprinkler application	  1.00      1.00
Omsrud	   15         	Very limited Seepage Too steep for surface application	  1.00  1.00     	· -	:	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00
Ridgeton	   8         	   Very limited   Seepage   Too steep for   surface   application 	  1.00  1.00     	· -	:	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00 
Delft	   6     	  Very limited   Depth to   saturated zone   Seepage	    1.00    0.77	  Very limited   Restricted   permeability   Depth to   saturated zone	  1.00    1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.15
Terril	   6         	  Very limited   Seepage   Depth to   saturated zone 	  1.00  0.05   		  1.00    1.00    0.12	surface application Depth to	  0.32      0.05
L103A: Fieldon	   50         	  Very limited   Depth to   saturated zone   Seepage 	  1.00    1.00	saturated zone	  1.00    1.00	saturated zone	  1.00    1.00

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map	of wastewater		Rapid infiltrati of wastewater		Slow rate treatm	
	unit   			   Rating class and   limiting features	•	   Rating class and   limiting features	Value
L103A: Canisteo	   35       	Depth to saturated zone	    1.00    1.00	saturated zone	    1.00    1.00	  Very limited   Depth to   saturated zone 	    1.00   
Darfur	   10       	Depth to saturated zone	    1.00    1.00	saturated zone	  1.00    1.00	  Very limited   Depth to   saturated zone 	  1.00   
Glencoe	   5         	saturated zone Seepage Ponding	  1.00    1.00  1.00  0.50	saturated zone Restricted permeability	  1.00    1.00    1.00	saturated zone	  1.00    1.00 
L105C2: Lester, eroded	   45           	Seepage Too steep for surface application	  1.00  0.50      0.01	permeability Slope	  1.00    1.00   	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application   Too acid	  1.00    0.50    0.01
Hawick	   35           	Seepage	  1.00  0.50       	  Very limited   Slope         	  1.00             		  1.00    1.00    0.50
Terril	   10       	Seepage	  1.00  0.05   		  1.00    1.00 	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
Hamel	   5       		    1.00  1.00 	•	  1.00    1.00	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21
Storden, eroded	   5         		  1.00  0.50   	•	  1.00    1.00   	surface	  1.00      0.50

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map	of wastewater		Rapid infiltrati of wastewater		Slow rate treatm	
	unit   		Value	   Rating class and   limiting features	Value	Rating class and limiting features	Value
L105D2: Lester, eroded	   45           	Seepage   Too steep for   surface   application	    1.00  1.00        0.01	· .	    1.00  1.00     	Very limited Too steep for surface application Too steep for sprinkler application Too acid	    1.00      1.00        0.01
Hawick	   35               	Seepage	  1.00  1.00           	  Very limited   Slope             	  1.00                 		  1.00    1.00      1.00
Ridgeton	8           	!	  1.00  1.00     	· -	  1.00  1.00   	Very limited Too steep for surface application Too steep for sprinkler application	  1.00      1.00
Hamel	   5       	!	    1.00  1.00 	!	    1.00    1.00	   Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21
Storden, eroded	   5         		  1.00  1.00     		  1.00  1.00     	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00
Terril	   2         		  1.00  0.05     		  1.00    1.00    0.12	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.32      0.05
L106C2: Lester, eroded	   62             	Seepage	  1.00  0.50      0.01 	permeability Slope	  1.00    1.00       	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application   Too acid	  1.00      0.50      0.01

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map	!		Rapid infiltrati of wastewater		Slow rate treatm	
	unit   	Rating class and limiting features	Value	Rating class and   limiting features	•	Rating class and   limiting features	Value
L106C2: Storden, eroded	   20           	  Very limited   Seepage   Too steep for   surface   application 	    1.00  0.50   	  Very limited   Restricted   permeability   Slope 	    1.00    1.00 	surface	    1.00      0.50
Terril	   10         	  Very limited   Seepage   Depth to   saturated zone 	  1.00  0.05   		  1.00    1.00 	surface	  0.08      0.05
Hamel	   5     	  Very limited   Seepage   Depth to   saturated zone	  1.00  1.00 	!	  1.00    1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21
Reedslake	   3       	  Very limited   Seepage   Depth to   saturated zone	  1.00  0.05   	! -	  1.00    1.00 	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
L106D2: Lester, eroded	   62             	  Very limited   Seepage   Too steep for   surface   application   Too acid	    1.00  1.00        0.01	Restricted permeability	    1.00  1.00     	· -	    1.00    1.00      0.01
Storden, eroded	   20           	   Very limited   Seepage   Too steep for   surface   application	  1.00  1.00     	  Very limited   Slope   Restricted   permeability 	  1.00  1.00     	   Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00
Ridgeton	   10         	   Very limited   Seepage   Too steep for   surface   application	  1.00  1.00     	-	  1.00  1.00     	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00
Terril	   5       	  Very limited   Seepage   Depth to   saturated zone	    1.00  0.05   	  Very limited   Depth to   saturated zone   Restricted   permeability   Slope	  1.00    1.00    0.12	  Somewhat limited   Too steep for   surface	0.32

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map			Rapid infiltrati of wastewater		Slow rate treatm of wastewater	
	unit	'	Value	   Rating class and   limiting features		   Rating class and   limiting features	Value
			<u> </u>				1
L106D2: Hamel	   3 	  Very limited   Seepage   Depth to	    1.00  1.00	  Very limited   Restricted   permeability	    1.00	  Very limited   Depth to   saturated zone	    1.00
	 	saturated zone	 	Depth to saturated zone	1.00 	Restricted   permeability	0.21
L107A:							
Canisteo	l l 50	  Verv limited		  Very limited	1	  Very limited	1
		Depth to	1.00	! -	1.00	! -	1.00
	i	saturated zone	İ	saturated zone	i	saturated zone	i
	İ I	Seepage 	1.00	Restricted permeability	1.00	l I	İ I
Glencoe	   35	  Very limited	į	    Very limited	į	    Very limited	į
01011000	33	Depth to	1.00	! -	1.00	! -	1.00
	į	saturated zone	į	saturated zone	İ	saturated zone	İ
		Seepage	1.00	Restricted	1.00	Ponding	1.00
	 	Ponding Too level	1.00  0.50	permeability Ponding	  1.00	 	
	į		į	j 	į	j 	į
Harps	1 10	Very limited   Seepage	1	Very limited   Depth to	1.00	Very limited   Depth to	11.00
	 	Seepage   Depth to	11.00	saturated zone	1	saturated zone	1
		saturated zone	1	Restricted	11.00	sacuraced zone	ł
	į		į	permeability			į
Canisteo,	 	 		 		 	
depressional	3	Very limited		Very limited		Very limited	
		Depth to	1.00	! -	1.00	Depth to	1.00
	ļ	saturated zone		saturated zone		saturated zone	!
	 	Seepage 	1.00 	Restricted permeability	1.00 	 	
Crippin	   2	  Very limited		  Very limited	 	  Very limited	
	į	Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
	 	Seepage 	1.00 	Restricted permeability	1.00	 	
L108A:	į	  -	į	İ	į	İ	į
Cordova	   65	  Very limited	i	  Very limited	1	  Very limited	
	į	Depth to	1.00	•	1.00	•	1.00
		saturated zone		permeability		saturated zone	
		Seepage	0.69	Depth to	1.00	Restricted	0.21
	 	 		saturated zone		permeability	
Rolfe	30	Very limited	İ	Very limited	İ	Very limited	İ
		Seepage	1.00		1.00	1	1.00
	ļ	Depth to	1.00	! -		saturated zone	
	 	saturated zone Ponding	  1 00	Depth to saturated zone	1.00	Ponding   Restricted	1.00
	l I	Ponding   Too acid	1.00  0.07	•	1 1.00	Restricted   permeability	10.96
						Too acid	0.07
Le Sueur	   5	  Very limited		  Very limited	 	  Very limited	
	İ	Seepage	1.00	:	1.00		1.00
		Depth to	1.00	saturated zone		saturated zone	
	I	l	1	I Bankudakad	1.00	Too acid	0.01
	!	saturated zone Too acid	0.01	Restricted permeability	11.00	100 acid	10.01

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map	of wastewater		Rapid infiltrati of wastewater		Slow rate treatment of wastewater	
	unit   	'	Value	Rating class and   limiting features		   Rating class and   limiting features	Value
		 	i	İ	İ		i
L109A: Marna	   65 	  Very limited   Depth to	    1.00	  Very limited   Restricted	:	  Very limited   Depth to	    1.00
	     	saturated zone	   	permeability Depth to saturated zone	  1.00 	saturated zone Restricted permeability	0.96
Barbert	   30   	  Very limited   Depth to   saturated zone	    1.00	  Very limited   Restricted   permeability	    1.00	  Very limited   Depth to   saturated zone	1.00
	į	Seepage	1.00	! -	1.00	Ponding	1.00
	   		1.00  0.42 		  1.00 	Restricted   permeability   Too acid	0.94    0.42
Guckeen	   5 	  Very limited   Depth to	    1.00	  Very limited   Restricted	1 1.00	  Very limited   Depth to	    1.00
	     	saturated zone	0.69	permeability	1.00	saturated zone	0.43
	İ	! 		Sacuraced Zone		permeability	¦
L110E: Lester	   50 	  Very limited   Seepage	    1.00	  Very limited   Slope	    1.00	  Very limited   Too steep for	    1.00
	   	Too steep for surface application	1.00	· -	1.00	!	      1.00
	     	application   	     	 	     	sprinkler   application	
Ridgeton	   30 	  Very limited   Seepage   Too steep for	  1.00  1.00	· -	  1.00  1.00	!	1.00
	       	surface   application		permeability	       	application Too steep for sprinkler application	  1.00 
Cokato	   10 	  Very limited   Seepage	    1.00		1.00	-	    1.00
	     	Too steep for   surface   application	1.00   	Restricted   permeability 	1.00   	surface   application   Too steep for   sprinkler	11.00
		 	 		 	application	
Belview	6     	!	  1.00  1.00		  1.00  1.00		  1.00 
	       	application	     		;     	Too steep for sprinkler application	1.00
Hamel	2   2		1.00		1	! -	1.00
	   	Depth to saturated zone	1.00   	! -	  1.00 	saturated zone   Restricted   permeability	  0.21 

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map unit	of wastewater		Rapid infiltrati   of wastewater 		Slow rate treatm   of wastewater 	
			•	Rating class and   limiting features		Rating class and   limiting features	
L110E: Terril	   2         	•	1.00	Very limited Depth to saturated zone Restricted permeability Slope	1.00    1.00	  Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	    0.32      0.05
L110F: Lester	   55           	Seepage	1.00		1.00	  Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	    1.00      1.00
Ridgeton	   30           	Seepage	1.00		1.00		  1.00      1.00 
Cokato	   8         	Seepage	1.00	Slope	1.00	   Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00 
Belview	   4         	Seepage	1.00		:	   Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      1.00 
Terril	   2       	  Very limited   Seepage   Depth to   saturated zone 	  1.00  0.05   		  1.00    1.00    0.12	surface application Depth to	  0.32      0.05
Hamel	   1       	  Very limited   Seepage   Depth to   saturated zone 	  1.00  1.00 	:	  1.00    1.00 	saturated zone	  1.00    0.21 
L111A: Nicollet	   85       	Seepage	  1.00  1.00 		    1.00    1.00	  Very limited   Depth to   saturated zone 	    1.00     

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map	of wastewater		Rapid infiltrati of wastewater		Slow rate treatm   of wastewater	
	unit   	'	Value	Rating class and   limiting features		Rating class and   limiting features	Value
L111A: Clarion	   10         	  Very limited   Seepage   Depth to   saturated zone	    1.00  0.05   	saturated zone	    1.00    1.00 	surface	    0.08      0.05
Webster	   5       	   Very limited   Depth to   saturated zone   Seepage 	  1.00    1.00	saturated zone	    1.00    1.00 	   Very limited   Depth to   saturated zone 	    1.00     
L112A: Webster	   85       	  Very limited   Depth to   saturated zone   Seepage	  1.00    1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00	  Very limited   Depth to   saturated zone 	    1.00   
Glencoe	   10       	  Very limited   Depth to   saturated zone   Seepage   Ponding   Too level	  1.00    1.00  1.00  0.50	saturated zone Restricted permeability	  1.00    1.00    1.00	saturated zone	  1.00    1.00 
Nicollet	   5       	Very limited Seepage Depth to saturated zone	  1.00  1.00 	Depth to	    1.00    1.00 	   Very limited   Depth to   saturated zone 	    1.00     
L113B: Reedslake	   75       	  Very limited   Seepage   Depth to   saturated zone	  1.00  0.05   	:	    1.00    1.00	surface	    0.08      0.05
Le Sueur	   10       	   Very limited   Seepage   Depth to   saturated zone	  1.00  1.00 	Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    1.00	   Very limited   Depth to   saturated zone 	    1.00     
Reedslake, eroded	   10       	  Very limited   Seepage   Depth to   saturated zone	  1.00  0.05   	Very limited   Depth to   saturated zone   Restricted   permeability   Slope	  1.00    1.00    0.12	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.32      0.05
Cordova	   5       	  Very limited   Depth to   saturated zone   Seepage 	  1.00    0.69	  Very limited   Restricted   permeability   Depth to   saturated zone	    1.00    1.00 	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.21

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map	of wastewater		Rapid infiltrati		Slow rate treatm	
	unit   		,	   Rating class and   limiting features		   Rating class and   limiting features	Value
	l		l				1
L114A: Hanlon, rarely			į Į		 		į Į
flooded    	85   		  1.00  0.87	<u>.                                      </u>	  1.00   	Somewhat limited   Depth to   saturated zone	0.87
		saturated zone	0.40	Restricted permeability	0.31	Filtering capacity	0.01
Coland, occasionally	l I	 	l I	 	 	 	l I
flooded		  Very limited   Flooding	    1.00	  Very limited   Depth to	    1.00	  Very limited   Depth to	1.00
	 	Depth to saturated zone	1.00	saturated zone	  1.00	saturated zone	  0.60
		Seepage	1.00	permeability Flooding	  0.60		į Į
Minneopa, rarely	 	 	 	 	 	 	
flooded	5 	Very limited   Seepage	  1.00	Very limited   Depth to	  1.00	Very limited   Filtering	  1.00
	 	Depth to saturated zone	0.87 	saturated zone	  0.32	capacity Depth to	  0.87
	 	Flooding	0.40	permeability	 	saturated zone	į I
L115A:			į		į		į
Brownton	55 	Very limited   Depth to	  1.00	Very limited   Restricted	  1.00	Very limited   Depth to	11.00
	 	saturated zone		permeability		saturated zone	
	 	[ 	j I	Depth to saturated zone	1.00	Restricted permeability	0.94
Lura	   35	    Very limited	İ I	    Very limited	 	    Very limited	İ
		Depth to	1.00		1.00		1.00
		saturated zone		permeability		saturated zone	
	l	Ponding 	1.00 	Depth to saturated zone	1.00 	Ponding Restricted	1.00
			į	Ponding	1.00	permeability	
Marna	10	  Very limited   Depth to	1.00	  Very limited   Restricted	    1.00	  Very limited   Depth to	  1.00
		saturated zone		permeability		saturated zone	
			 	Depth to saturated zone	1.00 	Restricted permeability	0.96 
L116A:	l I		 	 	 	 	
Le Sueur	45	_		Very limited		Very limited	İ
			1.00	<u>.                                      </u>	1.00		1.00
	l I	Depth to saturated zone	1.00 	saturated zone Restricted	  1.00	saturated zone Too acid	0.01
	İ		0.01	!			
Lerdal	40	  Very limited		  Very limited		  Very limited	i
		Depth to	1.00	Restricted	1.00	Depth to	1.00
	 	saturated zone Seepage	  1.00	permeability Depth to	  1.00	saturated zone Restricted	  0.94
			0.14			permeability Too acid	0.14

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map	of wastewater		Rapid infiltrati of wastewater		Slow rate treatm	
	unit   	'	Value	Rating class and   limiting features		   Rating class and   limiting features	Value
L116A: Mazaska	     10 	! - T	      1.00	    Very limited   Restricted	      1.00	    Very limited   Depth to	      1.00
	   	saturated zone	  0.69 	permeability	  1.00 	saturated zone	  0.96
Kilkenny	   5       	saturated zone Seepage	  1.00    0.69  0.21	permeability Depth to	    1.00    1.00 	saturated zone	  1.00    0.21  0.21
L117C2: Omsrud, eroded	   65           	Seepage	      1.00  0.50   	!	      1.00    1.00 	  Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	    1.00      0.50
Omsrud	   15         	Seepage	  1.00  0.50   	  Very limited   Restricted   permeability   Slope   	  1.00    1.00   	   Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      0.50
Terril	   10       	Seepage	  1.00  0.05   	:	  1.00    1.00 	surface	0.08
Delft	   5     	saturated zone	    1.00    0.77	permeability	    1.00    1.00	  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.15
Storden, eroded	   5           		  1.00  0.50     	  Very limited   Restricted   permeability   Slope 	  1.00    1.00   	Very limited   Too steep for   surface   application   Too steep for   sprinkler   application	  1.00      0.50
L118A: Rushriver, frequently flooded	     85         	Flooding   Seepage	    1.00  1.00  1.00	! =	    1.00  1.00    0.31	    Very limited   Depth to   saturated zone   Flooding   Filtering   capacity	    1.00    1.00  0.01

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map	of wastewater		Rapid infiltrati of wastewater	Slow rate treatm		
	unit   		•	Rating class and   limiting features		   Rating class and   limiting features	Value
			i	İ	İ		i
L118A:				[			
Houghton, frequently							
flooded	5	Very limited		Very limited	:	Very limited	1
	ļ	Flooding	1.00	!	1.00	! -	1.00
	ļ	Depth to	1.00	! -	1.00	!	
		saturated zone	1 00	saturated zone	1 00	Low adsorption	11.00
	 	Low adsorption	1.00	-	1.00		1.00
	l I	Seepage Ponding	1.00	!	10.09	Ponding Too acid	0.07
	 	Foliating	1	Permeability	1	100 acia	1
Klossner, frequently	i	! 	i	i I	i	! 	i
flooded	•	  Very limited	i	  Very limited	i	  Very limited	i
	i	Flooding	1.00		1.00	!	1.00
	i	Depth to	1.00	Depth to	1.00	saturated zone	i
	İ	saturated zone	į	saturated zone	į	Low adsorption	1.00
		Low adsorption	1.00	Restricted	1.00	Flooding	1.00
		Seepage	1.00	permeability		Ponding	1.00
		Ponding	1.00	Ponding	1.00		
			!	<u> </u>	!		!
Medo, frequently	_		!		!		!
flooded	5	Very limited		Very limited	•	Not rated	!
	l	Flooding	1.00	!	1.00	 	1
	 	Depth to saturated zone	11.00	Depth to saturated zone	1.00	 	-
	I I	Low adsorption	1.00	!	1	 	1
	 	<u> </u>	11.00	-	0.68	<u> </u> 	i
	i	Ponding	1.00			 	i
	į		į	į	İ	İ	į
L119B:				[			
Angus	80	Very limited		Very limited		Somewhat limited	
		Seepage	1.00		1.00		0.08
	ļ	Depth to	0.05	1		surface	!
		saturated zone	!	Restricted	1.00	application	
	 	İ		permeability		Depth to saturated zone	0.05
	 	 	1	 	1	sacuraced zone	1
Angus, eroded	1 10	  Very limited	i	  Very limited	i	  Somewhat limited	i
-	i	Seepage	1.00		1.00	!	0.08
	i	Depth to	0.05	saturated zone	İ	surface	i
	ĺ	saturated zone	İ	Restricted	1.00	application	İ
				permeability		Depth to	0.05
			!	ļ.	!	saturated zone	!
Camdana			1	 			
Cordova	5 	Very limited	!	Very limited		Very limited	1 00
	I I	Depth to saturated zone	1.00	Restricted permeability	1 - 00	Depth to saturated zone	1.00
	I I	Saturated zone   Seepage	0.69		1.00	!	0.21
	<u> </u>			saturated zone		permeability	
			1		1		
Le Sueur	5	Very limited	•	Very limited	:	Very limited	[
	ļ	Seepage	1.00		1.00		1.00
	ļ	Depth to	1.00	'		saturated zone	
		saturated zone		Restricted	1.00	Too acid	0.01
	ļ.	Too acid	0.01	permeability	İ	!	1

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map unit	of wastewater		Rapid infiltration of wastewater		Slow rate treatment   of wastewater 	
	   		Value	Rating class and limiting features		Rating class and   limiting features	Value
L120A: Good Thunder	     80     	  Somewhat limited   Depth to   saturated zone   Seepage 	    0.87    0.69	permeability	      1.00    1.00	saturated zone	    0.87    0.43
Ocheyedan	   10       	Seepage	    1.00  0.05 	:	    1.00    1.00	  Somewhat limited   Depth to   saturated zone   	    0.05   
Minnetonka	   10           	Depth to saturated zone Seepage	  1.00    0.77  0.07	permeability Depth to	    1.00    1.00   	saturated zone	  1.00    0.96    0.07
L121B: Clarion	   80         	Seepage	  1.00  0.05   	!	  1.00    1.00 	Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	  0.08      0.05
Guckeen	   15       	Depth to saturated zone	    1.00    0.69	permeability	  1.00    1.00	saturated zone	  1.00    0.43
Marna	   5     	  Very limited   Depth to   saturated zone	    1.00     	  Very limited   Restricted   permeability   Depth to   saturated zone		  Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96
L122B: Reedslake	   55         	  Very limited   Seepage   Depth to   saturated zone 	    1.00  0.05   		    1.00    1.00 	  Somewhat limited   Too steep for   surface   application   Depth to   saturated zone	    0.08      0.05
Estherville	   25       	  Very limited   Seepage     	    1.00     	  Somewhat limited   Restricted   permeability   	    0.32     	  Very limited   Filtering   capacity   Too steep for   surface   application	  1.00    0.08
Le Sueur	   10         	Very limited Seepage Depth to saturated zone Too acid	  1.00  1.00    0.01	saturated zone	  1.00    1.00	saturated zone	  1.00    0.01 

Table 11b.--Agricultural Waste Management--Continued

component name	Pct. of map	Overland flow of wastewater		Rapid infiltrati of wastewater		Slow rate treatm of wastewater	
I	unit			L		L	
		Rating class and   limiting features	Value	Rating class and   limiting features		Rating class and   limiting features	Value
							1
L122B:		İ	İ	İ	İ	İ	İ
Cordova	5	Very limited	:	Very limited	:	Very limited	
	İ	Depth to saturated zone	1.00	Restricted permeability	1.00	Depth to saturated zone	1.00
		!	0.69		1.00	•	0.21
į		İ	į	saturated zone	į	permeability	į
	_				ļ		ļ
Lowlein	5	Very limited   Seepage	  1.00	Very limited   Depth to	  1.00	Very limited   Filtering	11.00
	l İ		0.87	<u> </u>	1	capacity	1
		saturated zone	İ		1.00		0.87
			ļ	permeability	ļ	saturated zone	İ
T1000	i	 		 			!
L123A:   Belleville	85	  Very limited	 	  Very limited	 	  Very limited	1
		<u> </u>	1.00	! -	1.00	! -	1.00
ļ		Depth to	1.00	permeability		capacity	1
		saturated zone	ļ	Depth to	1.00	Depth to	1.00
	İ	 	l I	saturated zone	l I	saturated zone Restricted	0.21
i	 	 	i	 	i	permeability	
į		İ	İ	İ	İ	İ	İ
Granby	15		!	Very limited	:	Very limited	ļ
ļ	i		11.00	<u>.                                      </u>	1.00	!	1.00
	 	Depth to saturated zone	1.00 	saturated zone Ponding	1	capacity Depth to	1
		!	1.00			saturated zone	
		!		<u> </u>	ļ	Ponding	1.00
T 1243 .	İ	 	l i	l		 	
L124A:   Glencoe mucky clay	İ	 		 		 	1
loam	85	  Very limited	i	  Very limited	İ	  Very limited	i
Į.		<u>.                                      </u>	1.00	<u>.                                      </u>	1.00	! -	1.00
ļ	ı	saturated zone		saturated zone Restricted		saturated zone	
ļ	 		1.00  1.00		1.00 	Ponding 	1.00
		!	0.50	! -	1.00		i
Į.		!		!		!	1
Canisteo	10		  1.00	Very limited   Depth to	:	Very limited   Depth to	11.00
	 	saturated zone	1	saturated zone	1.00 	saturated zone	1
		Seepage	1.00	Restricted	1.00		i
			ļ	permeability	ļ	!	İ
Clanges glass loam		  Very limited	l i	 		  Very limited	
Glencoe clay loam	3	<u> </u>	1.00	Very limited   Depth to	11.00	•	1
		saturated zone	İ	saturated zone	İ	saturated zone	i
ļ			1.00	!	1.00	Ponding	1.00
ļ	i		10.00		11 00		!
	 	Too level 	0.50 	Ponding	1.00 	 	
L125A:			İ		İ	İ	i
Hanlon, rarely		[		[		[	
flooded	60		:	Very limited	:	Somewhat limited	
	 		1.00  0.87	<u> </u>	1.00	Depth to saturated zone	0.87
	! 	saturated zone	1	Restricted	0.31	•	0.01
ı							

Table 11b.--Agricultural Waste Management--Continued

Map symbol and component name	Pct. of map unit	of wastewater		Rapid infiltration of wastewater		Slow rate treatment   of wastewater 	
		Value	Rating class and limiting features	Value	Rating class and   limiting features	Value	
L125A: Coland, occasionally flooded	:	Very limited Flooding Depth to saturated zone Seepage	      1.00  1.00    1.00	Very limited Depth to saturated zone Restricted permeability Flooding	        1.00    1.00    0.60	  -  Very limited   Depth to   saturated zone   Flooding	      1.00    0.60
Minneopa, rarely flooded	   15       	  Very limited   Seepage   Depth to   saturated zone   Flooding	  1.00  0.87    0.40	  Very limited   Depth to   saturated zone   Restricted   permeability	    1.00    0.32	  Very limited   Filtering   capacity   Depth to   saturated zone	    1.00    0.87
L126A: Coland, occasionally flooded		  Very limited   Flooding   Depth to   saturated zone   Seepage	      1.00  1.00    1.00	  Very limited   Depth to   saturated zone   Restricted   permeability   Flooding	      1.00    1.00    0.60	Uery limited Depth to saturated zone Flooding	      1.00    0.60
Minneopa, occasionally flooded	   10   10     	Flooding	    1.00  1.00  0.87	  Very limited   Depth to   saturated zone   Flooding   Restricted   permeability	    1.00    0.60  0.32	  Very limited   Filtering   capacity   Depth to   saturated zone   Flooding	    1.00    0.87    0.60
Havelock, occasionally flooded	     5       	Seepage	      1.00  1.00  1.00	  Very limited   Depth to   saturated zone   Restricted   permeability   Flooding	      1.00    1.00    0.60	saturated zone Flooding Filtering	      1.00    0.60  0.01
Spillville, occasionally flooded	     5       		      1.00  1.00    1.00	saturated zone	      1.00    1.00    0.60	 	      1.00    0.60
L127A: Coland, frequently flooded	     80         	Flooding Depth to saturated zone	1.00	Depth to saturated zone	      1.00  1.00    1.00	! -	      1.00    1.00

Table 11b.--Agricultural Waste Management--Continued

Map symbol and Pct component name of		of wastewater		Rapid infiltrati   of wastewater 		Slow rate treatment   of wastewater 		
	unit   	'		   Rating class and   limiting features		Rating class and limiting features	Value	
L127A: Minneopa, occasionally	     	 	     	 	     	 	     	
flooded	10   	Flooding	  1.00  1.00		  1.00 	Very limited   Filtering   capacity	  1.00 	
	   	Depth to saturated zone	0.87	Flooding   Restricted   permeability	0.60	Depth to saturated zone Flooding	0.87	
Havelock, frequently	 	 	 	 	 	 		
flooded	5         		  1.00  1.00  1.00	Depth to	  1.00  1.00    1.00	Very limited   Depth to   saturated zone   Flooding   Filtering   capacity	  1.00    1.00  0.01	
Spillville, occasionally	   	   	   	   	   	   	   	
flooded	   5   	Depth to	  1.00  1.00	saturated zone	1.00 	saturated zone	1.00	
	   	saturated zone   Seepage 	  1.00 	Restricted   permeability   Flooding	1.00    0.60	Flooding   	0.60   	
L128A:		 				 		
Mazaska	60       	Very limited   Depth to   saturated zone   Seepage	  1.00    0.69	permeability	  1.00    1.00	Very limited   Depth to   saturated zone   Restricted   permeability	  1.00    0.96	
Rolfe	     30	    Very limited	   	    Very limited	   	    Very limited	 	
	   	Seepage   Depth to   saturated zone	1.00  1.00	!	1.00    1.00	saturated zone	1.00    1.00	
	   	Ponding Too acid	1.00	:	1.00	Restricted	0.96	
Lerdal	     10	    Very limited	   	    Very limited	   	    Very limited		
	   	Depth to saturated zone Seepage	1.00    1.00	permeability	1.00    1.00	saturated zone	1.00    0.94	
	   	Too acid 	0.14	! =		permeability   Too acid	0.14	
L129B: Terril	     90	    Very limited		    Very limited	!	    Somewhat limited		
	   	Seepage Depth to saturated zone	1.00  0.05 	saturated zone	1.00    1.00	surface application	0.08	
	   	   	   	permeability   	   	Depth to   saturated zone 	0.05   	

Table 11b.--Agricultural Waste Management--Continued

component name	Pct.	Overland flow of wastewater		Rapid infiltrati of wastewater	on	Slow rate treatm   of wastewater	
	map	l				 	
	unit 		•	Rating class and limiting features		   Rating class and   limiting features	Value
		IIMICING TEACUTES	<u> </u>	IIMICING TEACUTES	<u> </u>	IIMICING TEACUTES	1
L129B:			i		i		i
Delft	5	Very limited	İ	Very limited	j	Very limited	į
		Depth to	1.00	Restricted	1.00	Depth to	1.00
		saturated zone		permeability		saturated zone	
		Seepage	0.77	Depth to	1.00	Restricted	0.15
	l i	l I	!	saturated zone		permeability	
Hamel	l I 5	  Very limited		  Very limited		  Very limited	1
	•	Seepage	1.00	! -	1.00	_	1.00
		Depth to	1.00	•		saturated zone	
	İ	saturated zone	İ	Depth to	1.00	Restricted	0.21
		ĺ	ĺ	saturated zone	ĺ	permeability	İ
-100-			ļ		!	1	!
L130A: Okoboji mucky silty	l I	 		  -		l I	
clay loam	l I 75	  Very limited		  Very limited	l I	  Very limited	
cray roam	/3	Seepage	11.00		1.00	<u>-</u>	1.00
	İ	Depth to	1.00	•	i	saturated zone	i
	İ	saturated zone	İ	Depth to	1.00	Ponding	1.00
j		Ponding	1.00	saturated zone	ĺ	Restricted	0.21
	l	Too level	0.50	Ponding	1.00	permeability	ļ
			!			 	
Okoboji silty clay	l I 15	  Very limited		  Very limited	l I	  Very limited	
Toam	13	Depth to	1	! -	1.00	_	11.00
	i	saturated zone		permeability		saturated zone	
	i	Ponding	1.00	! -	1.00	Ponding	1.00
İ	ĺ	Seepage	0.77	saturated zone	ĺ	Restricted	0.15
	l		ļ	Ponding	1.00	permeability	ļ
Description			!				
Brownton	)	Very limited   Depth to	1.00	Very limited   Restricted	1 1.00	Very limited   Depth to	1
	 	saturated zone	1	permeability	1	saturated zone	1
	i		i	Depth to	1.00	Restricted	0.94
	İ		i	saturated zone	i	permeability	i
			ļ	ļ		[	1
Spicer	5	Very limited	:	Very limited	!	Very limited	
		Depth to saturated zone	1.00	! -	1.00		1.00
	l i	Saturated zone   Seepage	1.00	saturated zone Restricted	1 1.00	saturated zone	
		beepage 		permeability		 	i
	j	İ	İ	İ	İ	İ	į
M-W:		_	ļ		ļ	_	İ
Water, miscellaneous	100	Not rated	!	Not rated		Not rated	
U3B:	 	[ [		 	 	 	
Udorthents (cut and	i		i	İ	i		i
fill land)		Not rated	į	Not rated	į	Not rated	į
İ			ļ	!	!		!
W:	1100						1
Water	T00	NOT rated	1	Not rated	I	Not rated	1

## Table 12a.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

component name	:		ırce	   Potential as s   of sand 	ource
	unit		Value	Rating class	Value
GP: Pits, gravel	   80 	  Not rated 		  Not rated 	   
Udipsamments	20	Not rated	į	  Not rated	į
L5A:	 	 		 	
Delft, overwash	l I 50	  Poor	1	  Poor	i
	i	•		Bottom layer	0.00
	į			Thickest layer	0.00
Delft	   40	  Poor	 	  Poor	
	i	•		Bottom layer	0.00
	į	Thickest layer	0.00	Thickest layer	0.00
Glencoe	   5	  Poor		  Poor	l
	i	•		Bottom layer	0.00
	į	Thickest layer	0.00	Thickest layer	0.00
Terril	   5	  Poor		  Poor	
	i	'		Bottom layer	0.00
	ĺ	Thickest layer	0.00	Thickest layer	0.00
L13A:	 			 	l I
Klossner, drained	80	Poor	İ	Poor	İ
		•	:	Bottom layer	:
	 	Thickest layer	0.00 	Thickest layer	0.00
Mineral soil,	<u> </u>		i	İ	i
drained	15			Poor	
			:	Bottom layer	:
	 	Thickest layer 	0.00 	Thickest layer 	0.00
Houghton, drained	5	Poor	i	Poor	i
			:	Bottom layer	:
	 	Thickest layer 	0.00 	Thickest layer	0.00
L14A:	i		i	İ	i
Houghton, drained	80	•		Poor	
			:	Bottom layer	:
	 	Thickest layer 	0.00	Thickest layer 	0.00
Klossner, drained	10	'		Poor	į.
		Bottom layer		Bottom layer	0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
Mineral soil,	į .		į	İ	į
drained	10			Poor	
	l I	Bottom layer Thickest layer		Bottom layer Thickest layer	0.00
	I	I INTEREST TAYEL	10.00	inickest idyer	10.00

Table 12a.--Construction Materials--Continued

	Pct. of map	of gravel	ource	Potential as so of sand	ource
	unit 	 Rating class	Value	Rating class	Value
L15A: Klossner, ponded	30	Poor		  Poor	-
RIODDIICI / PONGCG		Bottom layer	0.00	!	0.00
	ĺ	Thickest layer	0.00	Thickest layer	0.00
Okoboji, ponded	30	  Poor		  Poor	
		Bottom layer	0.00		0.00
	l I	Thickest layer 	0.00 	Thickest layer 	0.00 
Glencoe, ponded	30	Poor	i	Poor	i
	ļ	Bottom layer	0.00		0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
Houghton, ponded	10	Poor		Poor	į
		Bottom layer Thickest layer	0.00	:	0.00
	 	Inickest layer	10.00	Thickest layer 	0.00 
L16A:	į	  -	į	-	į
Muskego, ponded	30 	Poor   Bottom layer		Poor   Bottom layer	  0.00
		Thickest layer	0.00	·	0.00
Blue Earth, ponded	   30	  Poor	-	  Poor	
	į	Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Houghton, ponded	30	  Poor	i	  Poor	İ
	İ	Bottom layer	0.00	Bottom layer	0.00
	l I	Thickest layer	0.00	Thickest layer	0.00
Klossner, ponded	10	  Poor	i	Poor	i
	ļ	Bottom layer	0.00	<u> </u>	0.00
	l I	Thickest layer 	0.00 	Thickest layer 	0.00 
L26B:	į		į	į	į
Shorewood	90	!	  0.00	Poor   Bottom layer	
		Bottom layer   Thickest layer	0.00	:	0.00
Good Marriage		   December	!	l Barra	-
Good Thunder	3 	Poor   Bottom layer	  0.00	Poor   Bottom layer	0.00
	į	Thickest layer	0.00		0.00
Minnetonka	   5	  Poor	l I	  Poor	-
	į	Bottom layer	0.00	!	0.00
		Thickest layer	0.00	Thickest layer	0.00
L36A:		 		 	
Hamel, overwash	50	'	:	Poor	
	 	Bottom layer	0.00	<u> </u>	0.00
	 	Thickest layer 	0.00 	Thickest layer 	
Hamel	43	Poor	i	Poor	į
		Bottom layer	0.00	<u> </u>	0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
		1	1	I .	1

Table 12a.--Construction Materials--Continued

	Pct.	Potential as so of gravel	urce	Potential as so	ource
=	map				
	unit			İ	
	i	Rating class	Value	Rating class	Value
			1		-
L36A: Terril	l I 5	  Poor		  Poor	
	i	'		Bottom layer	0.00
	į	Thickest layer	0.00	Thickest layer	0.00
Glencoe	   2	  Poor		  Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L40B:	i	 		 	
Angus	45	!		Poor	ļ
	ļ	<u> </u>		Bottom layer	0.00
	 	Thickest layer	0.00	Thickest layer 	0.00 
Kilkenny	40			Poor	İ
		<u>-</u>		Bottom layer	0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
Lerdal	10	Poor	i	Poor	i
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Mazaska	5	Poor	i	Poor	i
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L41C2:	i		i	İ	i
Lester, eroded	45	'		Poor	
	 	<u> </u>		Bottom layer Thickest layer	0.00
	İ	INICKESC TAYET		Inickest layer	
Kilkenny, eroded	40	!		Poor	
		Bottom layer		Bottom layer	0.00
	 	Thickest layer 	0.00	Thickest layer 	0.00
Terril	10	Poor		Poor	İ
	ļ	Bottom layer		Bottom layer	0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
Derrynane	5	Poor		Poor	į
	ļ	<u> </u>		Bottom layer	0.00
	 	Thickest layer 	0.00	Thickest layer 	0.00 
L41D2: Lester, eroded		l Doom	İ	 	Ì
lester, eroded	43	Bottom layer		Poor   Bottom layer	0.00
	i	<u>-</u>		Thickest layer	0.00
Kilkenny, eroded	   35	Poor		  Poor	
,		Bottom layer		Bottom layer	0.00
	į	Thickest layer		Thickest layer	0.00
Terril	   10	  Poor		  Poor	 
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Derrynane	   5	  Poor		  Poor	
		Bottom layer	0.00	Bottom layer	0.00
	1	Thickest layer	0.00	Thickest layer	0.00

Table 12a.--Construction Materials--Continued

component name	Pct. of map	of gravel	urce	Potential as so of sand	urce
	unit	:		<u> </u>	
	<u> </u>	Rating class	Value	Rating class	Value
L41D2:	 	 		 	l
Ridgeton	5	Poor	i	Poor	i
		Bottom layer	0.00	Bottom layer	0.00
	 	Thickest layer	0.00	Thickest layer	0.00
L41E:	i			 	
Lester	45	Poor		Poor	-
		Bottom layer		Bottom layer	0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
Kilkenny	40	Poor		Poor	İ
		Bottom layer		Bottom layer	0.00
	 	Thickest layer	0.00	Thickest layer	0.00
Terril	5	Poor	i	  Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Derrynane	   5	  Poor	1	  Poor	
	j	Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ridgeton	   5	  Poor		  Poor	
	i	Bottom layer		Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L48A:	 	 		 	
Derrynane, overwash	50	Poor	İ	Poor	İ
	ļ	·	:	Bottom layer	0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.00
Derrynane	40	Poor	i	Poor	i
		Bottom layer	0.00	Bottom layer	0.00
	 	Thickest layer	0.00	Thickest layer	0.00
Glencoe	   5	  Poor	1	  Poor	
	ĺ	Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril	   5	  Poor	1	  Poor	
	j	Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L49A:	 	 	İ		
Klossner, surface	İ	İ	İ	İ	į
drained	65	!	:	Poor	
		Bottom layer	0.00	<u> </u>	0.00
	 	Thickest layer 	0.00 	Inickest layer	0.00
Klossner, drained	20	!	!	Poor	į
	ļ	Bottom layer	0.00	<u> </u>	0.00
	 	Thickest layer	0.00	Thickest layer	0.00
Mineral soil,	i				
drained	15	Poor	:	Poor	1
		Bottom layer	0.00	<u> </u>	0.00
	I	Thickest layer	0.00	Thickest layer	0.00

Table 12a.--Construction Materials--Continued

component name	  Pct.   of  map	!	rce	   Potential as sou   of sand 	irce
	unit	İ		<u> </u>	
	L	Rating class	Value	Rating class	Value
L50A: Houghton, surface drained	       40 	    Poor   Bottom layer   Thickest layer	0.00	    Poor   Bottom layer   Thickest layer	      0.00  0.00
Muskego, surface				 	ļ
drained	   40   	  Poor   Bottom layer   Thickest layer 	0.00	  Poor   Bottom layer   Thickest layer	0.00
Klossner, drained	   10   	  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer	  0.00  0.00
Mineral soil, drained	   10     	  Poor   Bottom layer   Thickest layer 	0.00	  Poor   Bottom layer   Thickest layer	0.00
L51C2: Gladek, eroded	   80   	  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer	0.00
Barrington	   10   	  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer	0.00
Lester, eroded	   5   	  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer	0.00
Madelia	   5   	  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer	0.00
L56A: Muskego, frequently flooded		  -  Poor   Bottom layer   Thickest layer	      0.00  0.00	· -	      0.00  0.00
Klossner, frequently flooded		  Poor   Bottom layer   Thickest layer	      0.00  0.00	<u> </u>	    0.00  0.00
Suckercreek, frequently flooded	   10     	  Poor   Bottom layer   Thickest layer	    0.00  0.00	•	    0.00  0.62
L57A: Medo, drained	   80     	  Poor   Thickest layer   Bottom layer	    0.00  0.00		    0.00  0.43

Table 12a.--Construction Materials--Continued

	Pct. of map	of gravel	rce	Potential as sou of sand	rce
	unit	!		 	
	<u> </u>	Rating class	Value	Rating class	Value
L57A: Mineral soil,	   	   	   	   	   
drained	15	Poor		Fair	
	ļ	· -	0.00	·	0.09
	l I	Thickest layer 	0.00 	Thickest layer 	0.09 
Houghton, drained	5	Poor	<u> </u>	Poor	İ
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L63A:	 	 	 	 	l I
Klossner	85	Poor	<u> </u>	Poor	İ
	į	Bottom layer	0.00	Bottom layer	0.00
	ļ	Thickest layer	0.00	Thickest layer	0.00
Lura	   10	  Poor	 	  Poor	l I
nar a	10	!	!	!	0.00
	İ	:	0.00	:	0.00
Proceeding					
Brownton	l a	Poor   Bottom layer	!	Poor   Bottom layer	0.00
		-	0.00	-	10.00
	į	į	İ	į	į
L64A:		  -		<u> </u>	
Tadkee	50	Poor	!	Fair	10.00
	 	!	0.00  0.00	!	0.00  0.97
	İ	į	İ	į	j
Tadkee, depressional	36	!	!	Fair	
	l I	!	0.00  0.00	!	0.00  0.97
	i				
Better drained soil	8	Poor	ĺ	Fair	İ
		:	1	!	0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.22 
Granby	4	Poor	İ	  Fair	į
		!	0.00	!	0.18
		Thickest layer	0.00	Thickest layer	0.62
Less sandy soil	2	  Poor	 	  Poor	
-	i	Bottom layer	0.00	!	0.00
	ļ	Thickest layer	0.00	Thickest layer	0.00
L73A:		 	 	 	 
Blue Earth	80	  Poor	! 	  Poor	
	į	Bottom layer	0.00	Bottom layer	0.00
	ļ	Thickest layer	0.00	Thickest layer	0.00
Belleville	   10	Poor	[ [	  Poor	 
TOTICATITE	, ±0	•		:	0.00
	i	:	0.00	:	0.00
		į	!	ļ	ļ
Canisteo	10	:		Poor	
	l I	· -	0.00  0.00	·	0.00
		Interest taket		Interest tayer	

Table 12a.--Construction Materials--Continued

	  Pct.   of	1	urce	   Potential as so   of sand	urce
	map	:		!	
	unit 		Value	Rating class	Value
	ļ	!	ļ		!
L74A: Estherville	   87	  Fair		  Fair	
ESCHET VIIIE	0, 			Thickest layer	0.10
	į	•		Bottom layer	
Hawick	   10	  Fair		  Fair	l
	ĺ	Thickest layer	0.00	Thickest layer	0.08
	 	Bottom layer	0.05 	Bottom layer	0.91
Biscay	3			Fair	į
	ļ	•		Thickest layer	0.00
	 	Bottom layer	0.08	Bottom layer 	0.91 
L75B: Barrington		Poor		  Poor	
Dailing con	03	!		Bottom layer	10.00
	į			Thickest layer	0.00
Gladek	   10	  Poor		  Poor	
		Bottom layer	0.00	Bottom layer	0.00
	 	Thickest layer	0.00 	Thickest layer 	0.00
Madelia	5	!		Poor	
	ļ			Bottom layer	0.00
	 	Thickest layer 	0.00	Thickest layer 	0.00
L76B: Dickinson	   80	Poor		  Fair	
Dichindon		!		Thickest layer	0.09
	į			Bottom layer	0.62
Litchfield	1 13			  Fair	
	ļ			Bottom layer	0.19
	 	Thickest layer 	0.00	Thickest layer 	0.57 
Darfur	5	•		Fair	İ
	ļ	•		Thickest layer	:
	 	Thickest layer	0.00	Bottom layer 	0.11
Clarion	2	Poor		Poor	İ
				Bottom layer	
	 	Thickest layer 		Thickest layer 	0.00 
L77A: Brownton	   75	Poor		  Poor	
DIOWNCON	/3			Bottom layer	0.00
	į			Thickest layer	0.00
Marna	   15	  Poor		  Poor	
		•	0.00	Bottom layer	0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.00
Lura	10	!		Poor	
	 	Bottom layer   Thickest layer	:	Bottom layer	0.00
		Interest tayer		Thickest layer 	0.00
L78A:		!	1		!
	65	Poor		Poor	- 1
	65 	Poor   Bottom layer		Poor   Bottom layer	0.00

Table 12a.--Construction Materials--Continued

	Pct. of	•	rce	Potential as sou	ırce	
	map unit			 		
		Rating class	Value	Rating class	Value	
L78A:		<b> </b> 	 	<b> </b> 		
Crippin	10	Poor	İ	Poor	i	
			:	Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
Glencoe	10	Poor		  Poor		
		•		Bottom layer	0.00	
		Thickest layer 	0.00 	Thickest layer	0.00	
Canisteo,						
depressional	5	Poor	:	Poor	ļ	
		Bottom layer   Thickest layer	:	Bottom layer   Thickest layer	0.00	
		INICKESC TAYEL		INTEREST TAYET	1	
Harps	5	Poor		Poor	į	
		Bottom layer Thickest layer	:	Bottom layer   Thickest layer	0.00	
		INICKESC TAYEL		INTEREST TAYET	1	
Webster	5	Poor		Poor	İ	
			:	Bottom layer	0.00	
		INICKEST TAYEL		Thickest layer 	0.00 	
L79B:			į		į	
Clarion	65	Poor   Bottom layer	:	Poor   Bottom layer	  0.00	
		_	:	Thickest layer	0.00	
į			į		į	
Clarion, eroded	25		:	Poor   Bottom layer	  0.00	
		_	:	Thickest layer	0.00	
			į			
Nicollet	8	Poor   Bottom layer	:	Poor   Bottom layer	0.00	
		_	:	Thickest layer	0.00	
Webster	2	Poor   Bottom layer	:	Poor   Bottom layer	  0.00	
		_	:	Thickest layer	0.00	
					ļ	
L80C2:   Lester, eroded	75	  Poor	l I	  Poor		
			0.00	•	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
  Terril	10	  Poor	l I	  Poor		
		Bottom layer			0.00	
		Thickest layer	0.00	Thickest layer	0.00	
  Hamel	5	  Poor	 	  Poor		
j		Bottom layer		•	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
Reedslake	5	  Poor	 	  Poor	1	
İ		Bottom layer	0.00	Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
Storden, eroded	5	  Poor	 	  Poor	1	
-		Bottom layer	0.00	Bottom layer	0.00	
		Thickest layer		Thickest layer	0.00	

Table 12a.--Construction Materials--Continued

Map symbol and component name	:	:	urce	Potential as source	
	map	:			
	unit	İ		<u> </u>	
	<u> </u>	Rating class	Value	Rating class	Value
L80D2:		 	-	 	
Lester, eroded	75	  Poor	i	  Poor	i
	į	Bottom layer Thickest layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ridgeton	   10	  Poor		  Poor	
-	i	Bottom layer		•	0.00
	ļ	Thickest layer	0.00	Thickest layer	0.00
Storden, eroded	   8	  Poor		  Poor	-
,	•	Bottom layer		•	0.00
				Thickest layer	0.00
Terril	   5	  Poor	-	  Poor	-
	•	Bottom layer		•	0.00
				Thickest layer	0.00
Hamel		  Poor		  Poor	
namer	-	•		Bottom layer	0.00
	į	:	:	Thickest layer	0.00
L81A:	 	 		 	
	85	  Poor	1	  Poor	i
	į	Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Le Sueur	   10	  Poor		  Poor	İ
	į	Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rolfe	   5	  Poor	İ	  Poor	i
	į	Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L82A:	 	 	İ	 	i
Marna	85	Poor	į	Poor	į
	ļ	:	:	Bottom layer	
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
Barbert	10	•		Poor	i
	ļ	· -		Bottom layer	
	l I	Thickest layer 	10.00	Thickest layer 	0.00 
Guckeen	5	Poor	i	Poor	i
	ļ	Bottom layer	0.00	<u> </u>	0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
L83A:	İ	İ	i	İ	i
Webster	65	Poor		Poor	
	 	Bottom layer Thickest layer		Bottom layer Thickest layer	0.00
	i				
Glencoe	15	Poor		Poor	
		Bottom layer   Thickest layer		Bottom layer Thickest layer	0.00
				Interest tayer	
Canisteo	10	Poor		Poor	1
		Bottom layer Thickest layer		Bottom layer Thickest layer	0.00
			10.00	i inickest laver	0.00

Table 12a.--Construction Materials--Continued

component name	Pct. of map	of gravel	urce	urce Potential as source of sand		
	unit 	   Rating class	Value	Rating class	Value	
L83A:	 					
	   10     	  Poor   Bottom layer   Thickest layer 	0.00	  Poor   Bottom layer   Thickest layer 	0.00	
L84A: Glencoe	   80   	  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer	0.00	
Very poorly drained muck	     10   	  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer	0.00	
Canisteo	   5   	  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer	0.00	
Harps	   5     	  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer 	  0.00  0.00	
L85A: Nicollet	   85 	  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer	0.00	
Clarion	   10   	  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer	  0.00  0.00	
Webster	   5   	  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer	0.00	
L86A:	 	 		 		
Madelia	90   	Poor   Bottom layer   Thickest layer	:	Poor   Bottom layer   Thickest layer	  0.00  0.00	
Okoboji	   5   	  Poor   Bottom layer   Thickest layer		  Poor   Bottom layer   Thickest layer	0.00	
Spicer	   3 	  Poor   Bottom layer   Thickest layer		  Poor   Bottom layer   Thickest layer	  0.00  0.00	
Kingston	   2   	  Poor   Bottom layer   Thickest layer		  Poor   Bottom layer   Thickest layer	  0.00  0.00	
L87A: Kingston	     85   	  Poor   Bottom layer   Thickest layer	    0.00  0.00	<u> </u>	    0.00  0.00	
Truman	   10     	  Poor   Bottom layer   Thickest layer 	  0.00  0.00	<u> </u>	  0.00  0.00	

Table 12a.--Construction Materials--Continued

= =	Pct. of	!	rce	Potential as so of sand	urce
	map	İ		İ	
	unit	'	Value	Rating class	lvalue
L87A:	ļ _	  -	ļ		ļ
Madelia	5 	Poor		Poor   Bottom layer	  0.00
	 			Thickest layer	
L88A:		 		 	
Lura	85	Poor	!	Poor	
		Bottom layer Thickest layer	•	Bottom layer   Thickest layer	0.00
	l	Inickest layer	1	Inickest layer	1
Brownton	10	Poor	i	Poor	i
		Bottom layer	•	Bottom layer	0.00
	l I	Thickest layer 	0.00 	Thickest layer 	0.00 
Organic soil	5	Poor	į	Poor	į
	ļ	Bottom layer	•	Bottom layer	0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
L89A:		 	į	 	į
Guckeen	82 			Poor   Bottom layer	10.00
	ļ	:	2	Thickest layer	0.00
Marna	   10	  Poor		  Poor	
	į	Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Clarion clay loam	8	  Poor	1	  Poor	1
	İ	Bottom layer	0.00	Bottom layer	0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
L90A:	į	<u> </u>	į	<u> </u>	į
Le Sueur	75 	Poor   Bottom layer	•	Poor   Bottom layer	  0.00
		Thickest layer	0.00	:	0.00
Cordova	   13	  Poor		  Poor	
	i	Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Reedslake	1 12	  Poor	1	  Poor	1
	į	Bottom layer	0.00	Bottom layer	0.00
	 	Thickest layer	0.00 	Thickest layer	0.00 
L91A:					į
Mazaska	85	!	:	Poor	
				Bottom layer   Thickest layer	
Lerdal	   10	Poor		  Poor	
	-	!	:	Bottom layer	0.00
	į			Thickest layer	0.00
Rolfe	   5	  Poor		  Poor	
	ļ	:	:	Bottom layer	0.00
	1	Thickest layer	0.00	Thickest layer	0.00

Table 12a.--Construction Materials--Continued

component name	of map	of   of gravel   map		Potential as source of sand	
	unit 	'	Value	Rating class	Value
L92A:		 		 	
Darfur		Bottom layer	0.00	  Fair   Thickest layer   Bottom layer	0.08
Fieldon		Bottom layer	0.00	  Fair   Thickest layer   Bottom layer	  0.00  0.11
Litchfield		Bottom layer	0.00	  Fair   Bottom layer   Thickest layer	    0.19  0.57
Webster		Bottom layer	0.00	  Poor   Bottom layer   Thickest layer	    0.00  0.00
Dassel		Bottom layer	0.00	  Fair   Thickest layer   Bottom layer	  0.08  0.99
L93A:	 	 		 	1
Muskego		Bottom layer	0.00	Poor   Bottom layer   Thickest layer	  0.00  0.00
Blue Earth		Bottom layer		'	  0.00  0.00
Mineral soil, drained		    Poor   Bottom layer   Thickest layer	0.00	    Poor   Bottom layer   Thickest layer	      0.00
Belleville		  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer	    0.00  0.00
L94A: Lowlein	     75 	    Poor   Bottom layer   Thickest layer	0.00	    Poor   Bottom layer   Thickest layer	      0.00
Linder	   15   	  Poor   Thickest layer   Bottom layer	0.00	  Fair   Thickest layer   Bottom layer	    0.00  0.17
Dickinson	:	  Poor   Bottom layer   Thickest layer	0.00	  Fair   Thickest layer   Bottom layer	    0.09  0.62
Darfur	   2   	  Poor   Bottom layer   Thickest layer	0.00	  Fair   Thickest layer   Bottom layer	  0.08  0.11
L95E: Hawick	     80     	!	0.00	  Fair   Thickest layer   Bottom layer	    0.09  0.91

Table 12a.--Construction Materials--Continued

Map symbol and component name	  Pct.   of	•	urce	   Potential as so   of sand	ource
	map		!		
	unit 		Value	Rating class	Value
	[	I	İ		I
L95E: Estherville		Pair		  Fair	
ESCHEL VIIIE	1 10	!		Thickest layer	0.09
	į	:		Bottom layer	- 1
Tomall	   10	  Fair	l	  Fair	l I
	i			Thickest layer	0.00
	ĺ	Bottom layer	0.05	Bottom layer	0.22
L96B:		 		 	
Estherville	55	1		Fair	
	!	:	:	Thickest layer	0.10
		Bottom layer	0.05 	Bottom layer 	0.86 
Hawick	35	Fair	İ	Fair	į
	!	·		Thickest layer	0.08
	 	Bottom layer	0.05 	Bottom layer 	0.91 
Tomal1	8	Fair	i	  Fair	i
	ļ	!		Thickest layer	0.00
		Bottom layer	0.05 	Bottom layer	0.22
Biscay	2	  Fair	i	  Fair	i
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08 	Bottom layer	0.91 
L97C:	į	į	į	į	į
Hawick	60	1		Fair	
		•	•	Thickest layer   Bottom layer	0.08  0.91
Estherville		  Enim	ļ	  Enim	
Escherville	30	1		Fair   Thickest layer	0.10
	į	•		Bottom layer	0.86
Tomal1	   10	  Fair	l	  Fair	
		Thickest layer		Thickest layer	0.00
	į	Bottom layer	0.05	Bottom layer	0.22
L98A:		 		 	
Crippin	50	Poor		Poor	
		Bottom layer		Bottom layer   Thickest layer	0.00
		Inickest layer		Inickest layer 	
Nicollet	40	1		Poor	į
				Bottom layer	0.00
		Thickest layer 	10.00	Thickest layer 	0.00 
Canisteo	5	Poor		Poor	į
		:	:	Bottom layer	0.00
		Thickest layer 	10.00	Thickest layer 	0.00 
Clarion	5			Poor	į
		:	:	Bottom layer	0.00
		Thickest layer 		Thickest layer 	0.00
L99B:		l Parasa	į	 	İ
Clarion	62 	Poor   Bottom layer		Poor   Bottom layer	0.00
	i	·	:	Thickest layer	0.00
			İ	I	İ

Table 12a.--Construction Materials--Continued

component name	Pct.  Potential as source     of   of gravel		Potential as so	ource	
	map	:		 	
	unit 		Value	Rating class	Value
					ļ
L99B: Swanlake	   25	  Poor		  Poor	
Dwaniano	23	Bottom layer		Bottom layer	0.00
	į	Thickest layer	0.00	<u> </u>	0.00
Nicollet	   10	  Poor		  Poor	
	į	Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Webster	   3	Poor		  Poor	
		Bottom layer	0.00	Bottom layer	0.00
	 	Thickest layer	0.00	Thickest layer	0.00
L100B:	į		į		į
Clarion	45	Poor		Poor	
	 	Bottom layer   Thickest layer	:	Bottom layer Thickest layer	0.00
Wath amed 11 a		 	İ	 	į
Estherville	35 	Fair   Thickest layer	  0.00	Fair   Thickest layer	0.10
		Bottom layer	:	Bottom layer	0.86
Lowlein	   5	  Poor		  Fair	
	i	Bottom layer		Bottom layer	0.00
į	į	Thickest layer	0.00	Thickest layer	0.09
Nicollet	   5	  Poor		  Poor	
		Bottom layer	:	Bottom layer	0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
Swanlake	5	Poor	:	Poor	į
	 	Bottom layer   Thickest layer	:	Bottom layer	0.00
	! 	Inickest layer	0.00 	Thickest layer 	0.00 
Webster	5	Poor	:	Poor	
		Bottom layer		Bottom layer   Thickest layer	0.00
	 	Thickest layer 		Inickest layer	0.00 
L101C2: Omsrud, eroded	   40	Poor		  Poor	
	İ	Bottom layer		Bottom layer	0.00
	ĺ	Thickest layer	0.00	Thickest layer	0.00
Hawick	   30	  Fair		  Fair	
		Thickest layer	0.00	Thickest layer	0.08
	 	Bottom layer	0.05 	Bottom layer	0.91
Storden, eroded	20	!		Poor	
		Bottom layer	0.00	·	0.00
	 	Thickest layer 	0.00	Thickest layer 	0.00
Delft	5	Poor	:	Poor	
		Bottom layer	0.00		0.00
	! 	Thickest layer 		Thickest layer 	0.00 
Terril	5	Poor	:	Poor	
		Bottom layer	0.00		0.00
	Į.	Thickest layer	0.00	Thickest layer	0.00

Table 12a.--Construction Materials--Continued

	Pct. of	'	urce	Potential as source of sand		
	map	İ		İ		
	unit					
	L	Rating class	Value	Rating class	Value	
T101D0		1		1		
L101D2: Omsrud, eroded	   40	  Boor		  Poor		
Omsida, erodea	<del>1</del> 0	•		Bottom layer	0.00	
	i	<u> </u>	:	Thickest layer		
	ĺ	İ	İ	İ	İ	
Hawick	25	!	:	Fair		
		•		Thickest layer	0.08	
	 	Bottom layer	U - U 5	Bottom layer	0.91 	
Storden, eroded	20	  Poor	i	  Poor	i	
	į	Bottom layer	0.00	Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
Didwelen		 				
Ridgeton	6 	Poor   Bottom layer		Poor	10.00	
	i		:	Thickest layer		
	İ		i		i	
Delft	5	•		Poor	İ	
		Bottom layer	:	:	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
Terril	   4	  Poor	l I	  Poor	ŀ	
101111		Bottom layer		•	0.00	
	i		:	Thickest layer	0.00	
L102C2:		 		   D = ===		
Omsrud, eroded	45 			Poor   Bottom layer	  0.00	
	ľ	Bottom Tayer   Thickest layer		Thickest layer	10.00	
	į	· 	j	j	j	
Storden, eroded	25			Poor	Ţ	
	ļ			Bottom layer	0.00	
		Thickest layer	10.00	Thickest layer	0.00	
Omsrud	1 15	  Poor	i	  Poor	i	
	i	Bottom layer	:	Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
			ļ		ļ	
Terril	10			Poor   Bottom layer	  0.00	
	i	Thickest layer		Thickest layer	0.00	
	İ		i		i	
Delft	5	Poor		Poor		
	ļ	Bottom layer		Bottom layer	0.00	
		Thickest layer	10.00	Thickest layer	0.00	
L102D2:		! 		1 	1	
Omsrud, eroded	45	Poor	i	Poor	i	
		Bottom layer	0.00	Bottom layer	0.00	
	ļ	Thickest layer	0.00	Thickest layer	0.00	
Storden erodod	20	Poor		  Poor		
Storden, eroded	ı ∠∪ İ	Poor   Bottom layer	1	Poor   Bottom layer	0.00	
	i	Thickest layer	:	Thickest layer	0.00	
	į	į	į	İ	i	
Omsrud	15	Poor	1	Poor		
	ļ	Bottom layer Thickest layer	0.00		0.00	
				Thickest layer	0.00	

Table 12a.--Construction Materials--Continued

	Pct.	of gravel	urce	Potential as source of sand		
	map					
	unit		Value	Rating class	Value	
	i	İ	i	İ	i	
L102D2:		!	ļ	!	ļ	
Ridgeton	8	Poor		Poor		
		Bottom layer   Thickest layer	:	Bottom layer   Thickest layer	0.00	
Delft		Poor		  Poor	-	
Delic	"	Bottom layer		Bottom layer	0.00	
	į	Thickest layer		Thickest layer	0.00	
Terril	6	Poor	i	Poor	i	
	Ì	Bottom layer	0.00	Bottom layer	0.00	
		Thickest layer	0.00 	Thickest layer	0.00	
L103A:			į	<u>.</u>	į	
Fieldon	50			Fair   Thickest layer	  0.00	
		Thickest layer		Bottom layer	0.11	
Canisteo	   35	  Poor	l	  Poor		
	İ	Bottom layer		Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
Darfur	10	Poor	i	  Fair	i	
	ļ	Bottom layer		Thickest layer	0.08	
		Thickest layer 	0.00 	Bottom layer 	0.11	
Glencoe	5	Poor		Poor		
		Bottom layer   Thickest layer		Bottom layer   Thickest layer	0.00  0.00	
L105C2:		 		 	l	
Lester, eroded	45	Poor		Poor	į	
		Bottom layer	:	Bottom layer	0.00	
		Thickest layer 	0.00	Thickest layer 	0.00 	
Hawick	35	Fair	1	Fair	1	
		Thickest layer	:	Thickest layer	0.08	
		Bottom layer 	0.05 	Bottom layer 	0.91 	
Terril	10	Poor		Poor		
	l I	Bottom layer   Thickest layer		Bottom layer   Thickest layer	0.00  0.00	
_	_	į	į	į		
Hamel	5	Poor	  0.00	Poor	10.00	
		Bottom layer   Thickest layer	0.00		0.00	
Storden, eroded	   5	Poor		  Poor	l	
	İ	Bottom layer	0.00	Bottom layer	0.00	
		Thickest layer	0.00 	Thickest layer	0.00 	
L105D2:		 	į	l Page	į	
Lester, eroded	45 	Poor   Bottom layer	  0.00	Poor   Bottom layer	0.00	
	1	Bottom layer   Thickest layer	0.00		0.00	
mand all						
Hawick	35	Fair   Thickest layer	  0.00	Fair   Thickest layer	  0.08	
		Bottom layer		Bottom layer	0.00	
	i	i	İ	į		

Table 12a.--Construction Materials--Continued

Map symbol and component name		Potential as sou	rce	Potential as source of sand		
=	map	_		02 24114		
	unit	'				
	<u></u>	Rating class	Value	Rating class	Value	
L105D2:	 	 		 		
Ridgeton	l I 8	  Poor	ŀ	  Poor	i	
	:	Bottom layer		Bottom layer	0.00	
	į			Thickest layer		
Hamel	   5	  Poor	 	  Poor		
	į	Bottom layer	0.00	Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
Storden, eroded	   5			  Poor		
		Bottom layer	0.00	Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
Terril	   2	  Poor		  Poor		
		Bottom layer	0.00	Bottom layer	0.00	
	 	Thickest layer	0.00	Thickest layer	0.00	
L106C2:	İ		İ		i	
Lester, eroded	62	•		Poor		
	 	_		Bottom layer		
	 	Thickest layer 		Thickest layer 	0.00	
Storden, eroded	20			Poor		
				Bottom layer	0.00	
	 	Thickest layer 	0.00 	Thickest layer 	0.00 	
Terril	10	•		Poor		
				Bottom layer		
	 	Thickest layer 	0.00 	Thickest layer 	0.00 	
Hamel	5	•		Poor	į	
				Bottom layer		
	 	Thickest layer 	0.00	Thickest layer 	0.00 	
Reedslake	3	!	:	Poor	į	
			-	Bottom layer		
	 	Thickest layer 		Thickest layer 	0.00	
L106D2: Lester, eroded		Poor		  Poor		
nester, eroded	0 <u>2</u> 			Bottom layer	10.00	
		Thickest layer		Thickest layer	0.00	
Storden, eroded	   20	  Poor	 	  Poor	l I	
•	i	!	!	Bottom layer	0.00	
	į		:	Thickest layer		
Ridgeton	   10	  Poor	 	  Poor		
	ĺ	Bottom layer	0.00	Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
Terril	   5	  Poor		  Poor		
		Bottom layer	0.00	Bottom layer	0.00	
	 	Thickest layer	0.00	Thickest layer	0.00	
Hamel	3	  Poor		  Poor		
		Bottom layer	:	Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	

Table 12a.--Construction Materials--Continued

component name	Pct. of map	of gravel	rce	Potential as so of sand	urce
	unit	İ			
	L	Rating class	Value	Rating class	Value
L107A:	i		i		i
Canisteo	50			Poor	İ
				Bottom layer	
		Thickest layer	0.00	Thickest layer	0.00
Glencoe	l   35	  Poor	i	  Poor	-
	i	•	•		0.00
	ĺ	Thickest layer	0.00	Thickest layer	0.00
**		 		 	!
Harps	1 10	•		Poor   Bottom layer	0.00
	 			Thickest layer	0.00
	İ				i
Canisteo,	ĺ	İ	İ	İ	İ
depressional	3	Poor	!	Poor	
				Bottom layer   Thickest layer	0.00
	l I	Inickest layer	10.00	Inickest layer 	10.00
Crippin	2	Poor	i	Poor	i
	į	Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
-100-		1		1	!
L108A: Cordova	   65	Poor	l i	  Poor	
COIGOVA	03 	'	•	Bottom layer	10.00
	İ		2	Thickest layer	0.00
	İ	İ	į	İ	İ
Rolfe	30	'	•	Poor	
			2	Bottom layer	
	 	Thickest layer	10.00	Thickest layer 	0.00
Le Sueur	5	  Poor	1	  Poor	i
	į	•	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
T 1003 -		 		 	-
L109A: Marna	l   65	  Poor		  Poor	-
		!	:	Bottom layer	0.00
	į			Thickest layer	0.00
					ļ
Barbert	30	!	:	Poor	
	l I	Bottom layer   Thickest layer			0.00
	i			Interest tayer	
Guckeen	5	Poor	į	Poor	į
		•		Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L110E:	 	 	l i	 	
Lester	l   50	Poor	i	  Poor	i
	į	Bottom layer	:	'	0.00
		Thickest layer	0.00	Thickest layer	0.00
Didant		 		   D = ===	ļ
Ridgeton	30 	!	:	Poor   Bottom layer	0.00
	l I		:	Thickest layer	0.00
	i				
G-1t	i 1 10	Poor	İ	Poor	i
Cokato	1			•	
CORATO		Bottom layer	:	Bottom layer Thickest layer	0.00

Table 12a.--Construction Materials--Continued

Map symbol and component name		Potential as so   of gravel	urce	Potential as so of sand	ource
=	map				
	unit			İ	
	Ĺ	Rating class	Value	Rating class	Value
L110E:		 			
Belview	l   6	  Poor	i	Poor	-
	i	Bottom layer	0.00	Bottom layer	0.00
	İ	Thickest layer	0.00	Bottom layer   Thickest layer	0.00
Hamel		  Poor		  Poor	-
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril	2	  Poor	i	Poor	
		Bottom layer	0.00	Bottom layer	0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
L110F:	į		į	į	į
Lester		Poor		Poor	
	 	Bottom layer		Bottom Tayer   Thickest layer	
Ridgeton	30			Poor	
	ļ			Bottom layer	
	 	Thickest layer 	10.00	Thickest layer 	0.00 
Cokato	8	Poor		Poor	į
	ļ			Bottom layer	
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
Belview		Poor		Poor	į
	ļ	Bottom layer			
	 	Thickest layer 	10.00	Thickest layer 	0.00 
Terril		Poor		Poor	į
	ļ	Bottom layer			
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
Hamel	1	Poor	j	Poor	i
				Bottom layer	
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
L111A:	į		į	į	į
Nicollet	85 	Poor		Poor   Bottom layer	10.00
	ľ			Thickest layer	0.00
	į	-	į	į	į
Clarion	10	Poor	:	Poor	
	 	Bottom layer   Thickest layer	0.00	·	0.00
	į _	İ	į	į	į
Webster	5	Poor	:	Poor	
	 	Bottom layer   Thickest layer	0.00  0.00	Bottom layer   Thickest layer	0.00
	i				
L112A: Webster	   8E	  Poor		  Poor	
HENDLET	65	Bottom layer		Bottom layer	0.00
	i	<u> </u>	:	Thickest layer	0.00
_	į .	İ	į	į	į
Glencoe	10	Poor		Poor	
	l I	Bottom layer   Thickest layer	:	Bottom layer   Thickest layer	0.00
	!	I INTOUCHE TAYEL	10.00	I INTOROSC Tayer	10.00

Table 12a.--Construction Materials--Continued

	Pct. of map	of gravel	ırce	Potential as so of sand	urce	
	unit	i				
	i	Rating class	Value	Rating class	Value	
L112A: Nicollet	     5   	  Poor   Bottom layer   Thickest layer		    Poor   Bottom layer   Thickest layer	    0.00  0.00	
L113B: Reedslake	     75   	  Poor   Bottom layer   Thickest layer	:	  Poor   Bottom layer   Thickest layer	    0.00  0.00	
Le Sueur	   10   	  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer	  0.00  0.00	
Reedslake, eroded	   10   	  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer	0.00	
Cordova	   5     	  Poor   Bottom layer   Thickest layer 	0.00	  Poor   Bottom layer   Thickest layer 	0.00	
L114A: Hanlon, rarely flooded	     85   	    Poor   Bottom layer   Thickest layer	0.00	    Fair   Bottom layer   Thickest layer	      0.06  0.08	
Coland, occasionally flooded	:	  Poor   Bottom layer   Thickest layer	0.00	  Fair   Thickest layer   Bottom layer	    0.00  0.09	
Minneopa, rarely flooded	     5   	  Poor   Bottom layer   Thickest layer	0.00	  Fair   Thickest layer   Bottom layer	    0.10  0.52	
L115A: Brownton	   55   	  Poor   Bottom layer   Thickest layer	0.00	·	    0.00  0.00	
Lura	   35   	  Poor   Bottom layer   Thickest layer	0.00	  Poor   Bottom layer   Thickest layer	  0.00  0.00	
Marna	   10   	  Poor   Bottom layer   Thickest layer		  Poor   Bottom layer   Thickest layer	  0.00  0.00	
L116A: Le Sueur	     45   	  Poor   Bottom layer   Thickest layer	0.00	·	    0.00  0.00	
Lerdal	   40     	  Poor   Bottom layer   Thickest layer 	  0.00  0.00	·	  0.00  0.00	

Table 12a.--Construction Materials--Continued

	Pct. of	!	ource	Potential as source of sand		
	map	İ	İ			
	unit					
	<u> </u>	Rating class	Value	Rating class	Value	
L116A:		 		 		
Mazaska	l l 10	l  Poor	i	  Poor	i	
	i			•	0.00	
	į	Thickest layer		Thickest layer	0.00	
Kilkenny	   5	  Poor	ŀ	  Poor		
		Bottom layer	0.00	Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
L117C2:	 	 		 		
Omsrud, eroded	65	Poor		Poor		
	ļ	•		Bottom layer	0.00	
	 	Thickest layer 	0.00 	Thickest layer 	0.00 	
Omsrud	15	Poor	i	Poor	i	
	ļ	•		Bottom layer	0.00	
	 	Thickest layer 	0.00 	Thickest layer	0.00	
Terril	10	Poor	i	Poor	i	
		Bottom layer	0.00	Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
Delft	   5	  Poor	i	  Poor		
	j	Bottom layer	0.00	Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
Storden, eroded	   5	  Poor		  Poor		
•	i	•	0.00	Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
L118A:	 		i	 	İ	
Rushriver,	İ	İ	İ	İ	İ	
frequently flooded	85	!		Fair		
	 	Bottom layer   Thickest layer		Thickest layer   Bottom layer	0.06  0.08	
	 	INICKEST TAYET	10.00	BOCCOM Tayer		
Houghton, frequently			ļ		ļ	
flooded	5 			Poor   Bottom layer	  0.00	
		Thickest layer		Thickest layer	10.00	
	i				i	
Klossner, frequently	:	Poor	ļ	Poor		
flooded	3	Poor   Bottom layer	:	Poor   Bottom layer	10.00	
	İ	Thickest layer		•		
Wada formulation			ļ		ļ	
Medo, frequently flooded	   5	  Poor	ŀ	  Fair	ŀ	
	j	Thickest layer	0.00	Thickest layer	0.00	
		Bottom layer	0.00	Bottom layer	0.91	
L119B:		I Doom	į	Poor	i	
L119B: Angus	80	POOL			10 00	
	80	Bottom layer	0.00	•	0.00	
	80     	!		•	0.00	
	   	Bottom layer Thickest layer	0.00 	•		
J	   	Bottom layer Thickest layer	0.00 	Thickest layer      Poor		

Table 12a.--Construction Materials--Continued

component name	Pct. of map	of gravel	Potential as so of sand	urce	
	unit				
	<u> </u>	Rating class	Value	Rating class	Value
L119B:	 	 	 	 	l i
Cordova		Poor		Poor	i
	İ	Bottom layer	0.00	Bottom layer	0.00
				Thickest layer	0.00
Le Sueur	   5	  Poor	 	  Poor	
	i	Bottom layer	0.00	Bottom layer	0.00
	ļ			Thickest layer	0.00
L120A:	 	 	 	 	
Good Thunder	80	Poor	i	Poor	i
		Bottom layer			0.00
		Thickest layer	0.00	Thickest layer	0.00
Ocheyedan	1 10	  Poor	 	  Poor	
	İ	Bottom layer			0.00
		Thickest layer	0.00	Thickest layer	0.00
Minnetonka	   10	  Poor	 	  Poor	
	ĺ	Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L121B:	 	 	 	 	
Clarion	80	Poor	İ	Poor	İ
		Bottom layer	:		0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.00
Guckeen	15			Poor	i
		Bottom layer			
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
Marna	5	Poor	İ	Poor	i
		Bottom layer	:		0.00
	 	Thickest layer 	0.00 	Thickest layer 	0.00 
L122B:	i		İ		i
Reedslake	55	•		Poor	
	 			Bottom layer Thickest layer	0.00
	 	INICKEST TAYER	0.00	INICKEST TAYET	0.00
Estherville	25			Fair	İ
				Thickest layer	
	 	Bottom layer	0.05 	Bottom layer	0.86 
Le Sueur	10	!	!	Poor	į
				Bottom layer	0.00
	 	Thickest layer 	0.00 	Thickest layer	0.00
Cordova	5	Poor		Poor	i
		•		Bottom layer	0.00
	 	Thickest layer	0.00 	Thickest layer	0.00
Lowlein	5	  Poor		  Fair	
			:	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.09
L123A:		 	 		
Belleville	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
	:	Thickest layer		Thickest layer	0.00

Table 12a.--Construction Materials--Continued

component name	Pct.	of gravel	urce	Potential as so of sand	ource			
	map  unit	!						
		Rating class	Value	Rating class	Value			
T1005			1		ļ			
L123A: Granby	   15   	Bottom layer	0.00	  Fair   Bottom layer   Thickest layer	  0.18  0.87			
L124A:	 	 		 				
Glencoe mucky clay	İ	İ	i	İ	i			
loam	85   	Bottom layer	0.00	Poor   Bottom layer   Thickest layer	  0.00  0.00			
Canisteo	   10	  Poor	-	  Poor	-			
	     	!	0.00	Bottom layer   Thickest layer	0.00			
Glencoe clay loam	5	Poor	i	Poor	i			
	   	Bottom layer   Thickest layer		Bottom layer   Thickest layer	0.00			
L125A:	! 	! 	i	! 	i			
Hanlon, rarely		<u> </u>	!	<u> </u>	ļ			
flooded	60   	!	0.00	Fair   Bottom layer   Thickest layer	  0.06  0.08			
Coland, occasionally	 	 	i	 	İ			
flooded	25   	Poor   Bottom layer   Thickest layer	0.00	  Fair   Thickest layer   Bottom layer	0.00			
	ļ	ĺ	į	ĺ	į			
Minneopa, rarely flooded	   15	  Poor		  Fair				
	 	Bottom layer Thickest layer		Thickest layer Bottom layer	0.10			
L126A: Coland, occasionally	   	   	   	   				
flooded	80   	Poor   Bottom layer   Thickest layer	0.00	Fair   Thickest layer   Bottom layer	  0.00  0.09			
Minneopa,	 	 	ļ	 	ļ			
occasionally flooded	   10 	  Poor   Bottom layer   Thickest layer	    0.00  0.00		    0.10  0.52			
	i							
Havelock, occasionally		 		 				
flooded	   5	  Poor	1	  Poor	-			
		Bottom layer   Thickest layer	0.00	!	0.00			
Spillville,	 	 		 				
occasionally flooded	   5	  Poor		  Poor				
	i	Bottom layer	0.00	:	0.00			
		Thickest layer	0.00	Thickest layer	0.00			

Table 12a.--Construction Materials--Continued

	Pct. of	!	Potential as source of sand			
	map  unit			 		
		Rating class	Value	Rating class	Value	
L127A:	 	] ]		] ]		
Coland, frequently	İ	! 	i	! 	i	
flooded	80	Poor		Fair		
	ļ		:	Thickest layer	0.00	
	 	Thickest layer 	0.00 	Bottom layer 	0.09	
Minneopa,	į		į		į	
occasionally		_	!		ļ	
flooded	10	!		Fair		
	 		:	Thickest layer   Bottom layer	0.09	
	İ	i -	i	i -	į	
Havelock, frequently	:	 	!	   D = ===		
flooded	l s	Poor   Bottom layer		Poor   Thickest layer	0.00	
	<u> </u>		:	Bottom layer	0.00	
	İ	İ	İ	İ	İ	
Spillville,					ļ	
occasionally flooded	   5	  Poor		  Poor		
11000e0		:		Bottom layer	0.00	
	i			Thickest layer	0.00	
1003			ļ		!	
L128A: Mazaska	l I 60	  Poor		  Poor	-	
		!		:	0.00	
	İ	Thickest layer	0.00	Thickest layer	0.00	
Rolfe	   30	Poor		  Poor		
10110	30	!		Bottom layer	0.00	
	į	Thickest layer	:	Thickest layer	0.00	
Lerdal	   10	Poor	-	  Poor	-	
Derdar	<del>1</del> 0	!		Bottom layer	0.00	
	İ	Thickest layer	:	Thickest layer	0.00	
L129B:	 	l I		l I	-	
Terril	   90	  Poor	1	  Poor	i	
	į	Bottom layer	0.00	Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
Delft	l I 5	  Poor	-	  Poor	-	
	İ	Bottom layer	0.00	Bottom layer	0.00	
	İ	Thickest layer	0.00	Thickest layer	0.00	
Hamel	   5	  Poor		  Poor	-	
name1		Bottom layer	0.00	!	0.00	
	İ	Thickest layer	0.00	:	0.00	
.1203			-		-	
L130A: Okoboji mucky silty	l I	 		 	-	
clay loam	75	Poor	i	Poor	i	
	ĺ	Bottom layer	0.00	!	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
Okoboji silty clay	i I	 		 	l	
loam	15	Poor	i	Poor	i	
	i	Bottom layer	0.00	!	0.00	
	ı	Doccom rayer	1	Doccom rayer	1000	

Table 12a.--Construction Materials--Continued

Map symbol and	 	Potential as sou	rao	   Potential as sou	rao	
	of	1	LCE	of sand		
-	:			or sand		
	map	1	 			
	unit					
		Rating class	Value	Rating class	Value	
L130A:						
Brownton	5	Poor		Poor		
		Bottom layer	0.00	Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
		1		1		
Spicer	5	Poor		Poor		
		Bottom layer	0.00	Bottom layer	0.00	
		Thickest layer	0.00	Thickest layer	0.00	
		1	I	I	1	
M-W:	İ	Ì	İ	Ì	İ	
Water, miscellaneous	100	Not rated	İ	Not rated	İ	
	İ	İ	İ	İ	İ	
U3B:	İ	İ	İ	İ	İ	
Udorthents (cut and	İ	İ	İ	İ	İ	
fill land)	100	Not rated	i	Not rated	i	
	i	İ	i	İ	i	
W:	i	İ	i	İ	i	
Water	100	Not rated	i	Not rated	i	
	i	I	i	I	i	

## Table 12b.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

	Pct. of map unit	reclamation mate		   Potential as sour   of roadfill 	ce	Potential as source of topsoil	
		Rating class and		Rating class and limiting features	•		
	į .	<u> </u>	İ	<u> </u>	į .	<u> </u>	<u> </u>
GP: Pits, gravel	   80 	  Not rated 	   	  Not rated 	   	  Not rated 	   
Udipsamments	20	  Not rated	į	  Not rated	į	  Not rated	į
L5A:		 		 		 	
Delft, overwash	50     	Good     	     	saturated zone	0.14	Fair Depth to saturated zone	0.14
Delft	   40	  Good		  Poor	 	  Poor	
				Depth to saturated zone	0.00	Depth to saturated zone	0.00
Glencoe	   5     	  Good       	       	saturated zone Low strength	0.00	!	  0.00   
Terril	   5   	  Good   	     	  Fair   Depth to   saturated zone	0.88	  Fair   Depth to   saturated zone	    0.88 
L13A:	l I	 	 	 	 	 	
Klossner, drained	80         	Wind erosion	:		0.00	Poor Content of organic matter Depth to saturated zone	  0.00    0.00
Mineral soil,	İ	İ	i	İ	i	İ	i
drained	15     	•	0.12	Poor   Depth to   saturated zone   Shrink-swell	0.00	Poor   Depth to   saturated zone 	  0.00 
Houghton, drained	   5     	•		  Poor   Depth to   saturated zone 		  Poor   Content of   organic matter   Depth to   saturated zone	  0.00    0.00
L14A: Houghton, drained	     80       	    Poor   Wind erosion   	      0.00   	    Poor   Depth to   saturated zone   		Saturated Zone	      0.00    0.00

Table 12b.--Construction Materials--Continued

Map symbol and component name	Pct. of map	reclamation mate:		Potential as sour of roadfill	ce	Potential as sou of topsoil	rce
	unit   	'	Value	Rating class and   limiting features	Value	Rating class and   limiting features	Value
L14A: Klossner, drained	   10   1   	Wind erosion	      0.00  0.99 	! -	      0.00   	Poor   Content of   organic matter   Depth to   saturated zone	      0.00    0.00
Mineral soil, drained	     10     	:	      0.12   	saturated zone	      0.00    0.95	  Poor   Depth to   saturated zone	      0.00
L15A: Klossner, ponded	   30       	!	      0.99     	  Poor   Depth to   saturated zone 	    0.00     	Poor   Content of   organic matter   Depth to   saturated zone	    0.00    0.00
Okoboji, ponded	   30     	Too clayey	    0.08  0.99 	saturated zone	    0.00    0.12	saturated zone	0.00
Glencoe, ponded	   30     	  Good   	       	saturated zone	    0.00    0.93	  Poor   Depth to   saturated zone 	0.00
Houghton, ponded	   10       	  Good       	           	  Poor   Depth to   saturated zone   	  0.00     	  Poor   Content of   organic matter   Depth to   saturated zone	0.00
L16A: Muskego, ponded	   30       	  Poor   Carbonate content   		  Poor   Depth to   saturated zone 	    0.00     	Poor   Content of   organic matter   Depth to   saturated zone	    0.00    0.00
Blue Earth, ponded	   30       	  Fair   Carbonate content   	!	saturated zone	0.00 	Poor   Depth to   saturated zone   Content of   organic matter	  0.00    0.94
Houghton, ponded	   30       	  Good     	         	   Poor   Depth to   saturated zone   	    0.00     	Poor   Content of   organic matter   Depth to   saturated zone	  0.00    0.00
Klossner, ponded	   10         	!	    0.99     	  Poor   Depth to   saturated zone   	    0.00       	  Poor   Content of   organic matter   Depth to   saturated zone	  0.00    0.00 

Table 12b.--Construction Materials--Continued

component name	Pct. of map unit	reclamation material		   Potential as sour   of roadfill   	ce	Potential as source of topsoil		
		'		Rating class and   limiting features		Rating class and   limiting features	Value	
L26B: Shorewood	     an	Poor	   	    Fair	   	    Poor		
bhorewood		Too clayey	!	Depth to saturated zone	0.14	Too clayey Depth to	0.00	
Good Thunder	   5       	Low content of organic matter Too acid	!	saturated zone Shrink-swell	    0.88    0.96 	Depth to	  0.00  0.88   	
Minnetonka	   5       	organic matter Too clayey		saturated zone	  0.00    0.55 	Depth to	  0.00  0.00 	
L36A: Hamel, overwash	   50 	  Good   	     	  Fair   Depth to   saturated zone	!	  Fair   Depth to   saturated zone	0.14	
Hamel	   43     			saturated zone	    0.00    0.99	  Poor   Depth to   saturated zone 	  0.00   	
Terril	   5 	  Good 	   	  Good 	   	  Good 	   	
Glencoe	2     	Fair Low content of organic matter		saturated zone	  0.00    0.95	Poor   Depth to   saturated zone 	  0.00   	
L40B: Angus	   45       	Low content of organic matter Too acid	    0.12    0.97  0.99	 	      0.99     	  Good     		
Kilkenny	40       	Too clayey Low content of organic matter	0.12	Depth to   saturated zone   Shrink-swell	0.24 		  0.00  0.24 	
Lerdal	   10             	Too clayey Low content of organic matter Too acid Carbonate content	0.12    0.54	Depth to saturated zone Shrink-swell	0.22	Depth to saturated zone	  0.00  0.22    0.98 	

Table 12b.--Construction Materials--Continued

component name	map	reclamation mate:		•	ce	Potential as source of topsoil		
	unit   	   Rating class and   limiting features		Rating class and limiting features	,	Rating class and limiting features		
T 40D -								
L40B: Mazaska	l I5	  Poor	l I	  Poor		  Poor		
		!	!	1	0.00	•	0.00	
	ĺ	Low content of	0.12		,	saturated zone	İ	
		organic matter	:		0.56	Too clayey	0.00	
	 	Too acid Carbonate content	0.68  0.97	!	 	 		
L41C2:	 	 	 	 	 	 		
Lester, eroded	45	  Fair	İ	  Fair	i	  Fair	i	
		Low content of	0.88	Shrink-swell	0.97	Slope	0.96	
		organic matter					!	
	 	Too acid Carbonate content	0.97	1	l I	 	1	
	i I	carbonate content		! 	i	! 	i	
Kilkenny, eroded	40	Poor	į	Fair	İ	Poor	į	
			•		:	Too clayey	0.00	
				saturated zone	!	Depth to	0.89	
		organic matter Too acid	  0.68		0.91 	saturated zone	0.96	
Terril	   10	  Good	 	  Good		  Good		
Derrynane		   Doom	 	  Poor		  Poor		
Derrynane	3 	!	!	!	!	Depth to	10.00	
	i		İ	saturated zone	İ	saturated zone	i	
		 	 	Shrink-swell	0.41	Too clayey	0.00	
L41D2:	! 	! 	! 	 	 	 	i	
Lester, eroded	45	Fair	l	Fair		Poor	1	
		!	0.88	Shrink-swell	0.97	Slope	0.00	
	l I	organic matter Too acid	  0.97	 		 	1	
		Carbonate content	!	!	ļ			
Kilkenny, eroded	   35	Poor	 	  Fair	l I	  Poor		
RITHOMITY CIOCCO	33	•		!	0.89	!	0.00	
	į	:	:	saturated zone	İ	Too clayey	0.00	
		organic matter	!		0.91	!	0.89	
	 	Too acid	0.68 	 	l I	saturated zone		
Terril	10	Good	! !	Good		  Good		
Derrynane	   5	  Poor	 	  Poor	 	  Poor		
-	į	Too clayey		•		Depth to	0.00	
		ļ		saturated zone		saturated zone	1	
	 	 	 	Shrink-swell	0.41 	Too clayey 	0.00 	
Ridgeton	5	Good	İ	  Good	İ	  Fair	i	
	 	 	 	 		Slope	0.84	
L41E:	<u> </u>			 		 		
Lester	45	!	!	Fair	,	Poor	[	
		Low content of	:			Slope	0.00	
	I I	organic matter Too acid	  0.97	!	0.98 	 	 	
	i	Carbonate content	:	!	İ	İ	i	
	i	i	i	I	i	i	i	

Table 12b.--Construction Materials--Continued

component name	of map	!		•	ce	Potential as source of topsoil		
	unit   	Rating class and		   Rating class and   limiting features				
L41E: Kilkenny		Too clayey Low content of organic matter	0.00  0.12 		0.18  0.89 	Poor Slope Too clayey Depth to saturated zone	    0.00  0.00  0.89	
Terril	   5	  Good	 	  Good	 	  Good		
Derrynane	:	•	0.82	saturated zone	0.00 	saturated zone	0.00	
Ridgeton	   5 	  Good 	   	  Good 	   	  Fair   Slope	    0.04	
L48A: Derrynane, overwash	     50     	•		  Fair   Depth to   saturated zone   Shrink-swell	0.14 	Depth to	    0.00  0.14	
Derrynane	40     	•		saturated zone	0.00 	  Poor   Depth to   saturated zone   Too clayey	0.00	
Glencoe	   5       	  Good     	1	saturated zone Low strength	0.00	İ	  0.00   	
Terril	   5 	  Good 	   	  Good 	   	  Good 		
L49A: Klossner, surface drained	i	Wind erosion	0.00	  -  Poor   Depth to   saturated zone   	0.00	   Poor   Content of   organic matter   Depth to   saturated zone	0.00	
Klossner, drained	   20       	Wind erosion	0.00	  Poor   Depth to   saturated zone   	0.00 	Poor   Content of   organic matter   Depth to   saturated zone	0.00	
Mineral soil, drained		Low content of	0.12	saturated zone	0.00	saturated zone	      0.00   	

Table 12b.--Construction Materials--Continued

component name	Pct. of map unit	reclamation mater		·		Potential as sou   of topsoil 	rce
	•	Rating class and limiting features	1	Rating class and limiting features	•	Rating class and limiting features	
L50A: Houghton, surface drained	     40       	!	          0.00     	  -   Poor   Depth to   saturated zone	!	   Poor   Content of   organic matter   Depth to   saturated zone	      0.00    0.00
Muskego, surface drained	   40       	!	0.00	! -	!	  Poor   Content of   organic matter   Depth to   saturated zone	    0.00    0.00
Klossner, drained	   10       	Wind erosion	    0.00  0.99 			Poor Content of organic matter Depth to saturated zone	  0.00    0.00
Mineral soil, drained	     10     	1		saturated zone		  Poor   Depth to   saturated zone	    0.00 
L51C2: Gladek, eroded	   80       	Low content of organic matter	0.02    0.90	 	      0.99   	  Fair   Slope   	    0.96   
Barrington	   10     	Low content of organic matter	0.12	saturated zone	0.88	  Fair   Depth to   saturated zone 	  0.88   
Lester, eroded	   5     	Low content of organic matter	0.88    0.97	 	  0.97     	Fair   Slope 	0.96
Madelia	   5       		0.12 	saturated zone Shrink-swell	0.00	saturated zone	  0.00    0.98 
L56A: Muskego, frequently flooded		    Poor   Carbonate content     		  Poor   Depth to   saturated zone   		   Poor   Content of   organic matter   Depth to   saturated zone	      0.00    0.00

Table 12b.--Construction Materials--Continued

component name	map	Pct.   Potential as source of   reclamation mater map   unit		Potential as sour of roadfill	Potential as sou of topsoil	ırce	
	L		Value	Rating class and   limiting features	Value	Rating class and   limiting features	Value
L56A: Klossner, frequently flooded		  -  Fair   Water erosion  -  -	        0.99     	  -  Poor   Depth to   saturated zone   	        0.00     	 	      0.00    0.00
Suckercreek, frequently flooded	   10     	  Good   	       	  Poor   Depth to   saturated zone	    0.00	  Poor   Depth to   saturated zone	    0.00
L57A: Medo, drained	   80         	Wind erosion	    0.00  0.12   	! -	    0.00     	  Poor   Content of   organic matter   Depth to   saturated zone	  0.00    0.00
Mineral soil, drained	   15 	!	    0.12 	  Poor   Depth to   saturated zone	    0.00 	  Poor   Depth to   saturated zone	    0.00
Houghton, drained	   5       	  Poor   Wind erosion     	    0.00     	  Poor   Depth to   saturated zone   	    0.00     	Poor   Content of   organic matter   Depth to   saturated zone	  0.00    0.00
L63A: Klossner	   85       		    0.00   	  Poor   Depth to   saturated zone   Shrink-swell	0.00 	  Poor   Depth to   saturated zone   Content of   organic matter	  0.00    0.00
Lura	   10     	!	    0.00   	saturated zone	0.00	  Poor   Too clayey   Depth to   saturated zone	  0.00  0.00
Brownton	   5     		    0.12   	saturated zone	0.00	  Poor   Depth to   saturated zone   Too clayey	  0.00    0.12
L64A: Tadkee	     50       	Too sandy Wind erosion	0.00	saturated zone	0.00	  Poor   Too sandy   Depth to   saturated zone	0.00
Tadkee, depressional	36         	Too sandy Wind erosion	  0.00  0.00  0.12 	saturated zone	0.00	  Poor   Too sandy   Depth to   saturated zone	  0.00  0.00 

Table 12b.--Construction Materials--Continued

component name	of map	:		•	ce	Potential as sou of topsoil	rce
	unit   	Rating class and		   Rating class and   limiting features			
L64A: Better drained soil	!			    Fair   Depth to		    Fair   Too sandy	      0.22
	     	organic matter Too sandy			     	Depth to saturated zone	0.88     
Granby	   4       	Low content of organic matter Too sandy	0.00	 	0.00	saturated zone	  0.00    0.36
Less sandy soil	:	Wind erosion	0.00	  Poor   Depth to   saturated zone 	0.00	  Poor   Depth to   saturated zone 	    0.00   
L73A: Blue Earth	   80     	  Fair   Carbonate content   	!	  Poor   Depth to   saturated zone	0.00	  Poor   Depth to   saturated zone   Carbonate content	
Belleville	   10     	Too sandy	0.01	  Poor   Depth to   saturated zone 	0.00	  Poor   Depth to   saturated zone   Too sandy	  0.00    0.01
Canisteo	!		0.12 	saturated zone	0.00	saturated zone	  0.00    0.97
L74A: Estherville	     87     	Too sandy Low content of organic matter	    0.00  0.12    0.30	 	!	:	    0.00  0.00  0.82
Hawick	   10     	Too sandy	0.00  0.06	İ	       	<u> </u>	  0.00  0.03  0.98
Biscay		  Fair   Low content of   organic matter   Carbonate content 	0.12 	saturated zone	:	  Poor   Depth to   saturated zone   Hard to reclaim 	  0.00    0.68
L75B: Barrington	   85     	Low content of organic matter Water erosion	0.12	saturated zone	0.88	  Fair   Depth to   saturated zone   	    0.88     

Table 12b.--Construction Materials--Continued

	of map	!		•	ce	Potential as sou of topsoil	rce
	unit   	Rating class and			•	   Rating class and   limiting features	
L75B:	 	 	 	 	 	 	 
Gladek	10	Fair	ĺ	Fair	İ	Fair	İ
	 	organic matter	İ	Shrink-swell	0.99	Slope 	0.96
		Water erosion   Carbonate content		1		 	
Madelia	   5	  Fair	 	  Poor		  Poor	
	j I	:	1	Depth to saturated zone	:	Depth to saturated zone	0.00
	į			•	0.99	Too clayey	0.98
	l I	Water erosion 	0.99 	 	 	 	 
L76B:	į		į	į	į	į	į
Dickinson	80 	!	  0.50	Good		Good 	
	i	organic matter		İ			i
		Too acid	0.84				
Litchfield	1 13	  Poor	 	  Fair		  Poor	
	į	Too sandy	0.00	Depth to	0.06	Too sandy	0.00
			0.00			! -	0.06
	l I	Low content of organic matter		 		saturated zone	l I
	İ	!	0.95	İ	İ	İ	i
Darfur		  Enim		   Doom		   Deem	
Darlur	3	•		Poor   Depth to	•	Poor   Depth to	0.00
	į	organic matter		saturated zone	2	saturated zone	į
Clarion	   2	  Fair	 	  Good		  Good	 
	İ	Low content of	0.12	İ	İ	İ	İ
	l I	organic matter Water erosion	  0.99	 		 	
		Water erosion		İ		 	i
L77A: Brownton	75	  Enim		   Doom		   Deem	
Brownton	/5 			Poor   Depth to	•	Poor   Depth to	10.00
	i	İ	İ	saturated zone	:	saturated zone	i
	 	 	 	Shrink-swell	0.68	Too clayey	0.12
Marna	1 15	  Poor	<u> </u>	Poor		  Poor	
	ļ			Depth to			0.00
	 	Carbonate content	•	•		saturated zone Too clayey	
•		l Danier		l Barana		l Parasa	
Lura	10					Poor   Too clayey	10.00
	į	İ	İ	saturated zone		Depth to	0.00
		 	 	Shrink-swell	0.12	saturated zone	
L78A:							İ
Canisteo		!		Poor		Poor	
	 	Low content of organic matter		saturated zone		Depth to   saturated zone	1
	į	Carbonate content		•	:	Carbonate content	:
Crippin	   10	  Fair	 	  Fair		  Fair	
21 1PP 111	•	Low content of	•	•		•	0.12
	I	•		•		saturated zone	
	:	Carbonate content	:	•	:	:	

Table 12b.--Construction Materials--Continued

component name	Pct. of map	reclamation mate:		Potential as sour	ce	Potential as sour	rce
	unit   	'		Rating class and   limiting features	•	Rating class and   limiting features	Value
L78A: Glencoe	   10   1   	    Good     	           	saturated zone Low strength	    0.00    0.00  0.93	saturated zone	      0.00   
Canisteo, depressional	     5   	:	:	saturated zone	      0.00    0.99	saturated zone	      0.00   
Harps	   5   	  Fair   Low content of   organic matter   Carbonate content	0.12	saturated zone		  Poor   Depth to   saturated zone   Carbonate content	    0.00    0.97
Webster	   5     	organic matter	0.12 	saturated zone	:	saturated zone	    0.00    0.99
L79B: Clarion	   65     	Low content of organic matter Carbonate content	0.12 	İ	;         	  Good     	         
Clarion, eroded	   25     	Low content of organic matter Carbonate content	0.88 	  Good     	       	  Good     	         
Nicollet	   8   	organic matter	    0.12    0.98	saturated zone	    0.12    0.98	saturated zone	    0.12    0.98
Webster	   2     	organic matter	0.12	saturated zone	0.00	saturated zone	    0.00    0.99
L80C2: Lester, eroded	   75     	Low content of organic matter	0.88      0.97		    0.97   	  Fair   Slope   	    0.96   
Terril	   10 	  Good 	   	  Good 	   	  Good 	   
Hamel	5     	Fair Low content of organic matter		Poor   Depth to   saturated zone   Shrink-swell	  0.00    0.99 	saturated zone	  0.00     

Table 12b.--Construction Materials--Continued

component name		!		•	ce	Potential as sou of topsoil	rce
	   	Rating class and	•	Rating class and   limiting features	:	Rating class and limiting features	:
L80C2: Reedslake	     5   	    Fair   Low content of   organic matter   Carbonate content	0.12	į	      0.99 	    Good 	       
Storden, eroded	   5       	  Fair   Low content of   organic matter   Carbonate content	    0.50	  Fair   Shrink-swell	    0.90     	:	    0.80  0.96 
L80D2: Lester, eroded	   75       	Low content of organic matter	0.88    0.97	 	      0.97   	   Poor   Slope   	    0.00   
Ridgeton	   10 	  Good 	   	  Good 	   	  Fair   Slope	0.37
Storden, eroded	:	Low content of organic matter Carbonate content	0.50	  Fair   Shrink-swell   	    0.90     	  Poor   Slope   Carbonate content 	  0.00  0.80 
Terril	   5   	  Good   	     	  Fair   Depth to   saturated zone	0.88	  Fair   Depth to   saturated zone	    0.88 
Hamel	   2   	!	!	saturated zone	!	  Poor   Depth to   saturated zone 	    0.00   
L81A: Cordova	   85     	Low content of organic matter Too acid	0.12	saturated zone	0.00 	saturated zone	    0.00    0.94
Le Sueur	   10     	Low content of organic matter	    0.97	Depth to saturated zone Shrink-swell	:	Depth to saturated zone	    0.12   
Rolfe	   5         	Too clayey Low content of organic matter Too acid	0.00 0.50	İ	0.00 	saturated zone	    0.00    0.00 

Table 12b.--Construction Materials--Continued

component name	map	reclamation mate		1	ce	Potential as sou of topsoil	rce
	unit   		:	Rating class and   limiting features	•	Rating class and   limiting features	
L82A: Marna	     85     	Too clayey	0.05	saturated zone	0.00 	saturated zone	    0.00    0.05
Barbert	   10       	Too clayey	0.00	saturated zone	0.00	Depth to	  0.00  0.00 
Guckeen	   5       	Low content of organic matter	0.12  0.12	saturated zone Shrink-swell	0.88	Fair   Too clayey   Depth to   saturated zone	  0.12  0.88 
L83A: Webster	   65     	Low content of organic matter	0.12 	saturated zone	0.00	saturated zone	    0.00    0.99
Glencoe	   15       	  Good     		saturated zone Low strength	!	saturated zone	    0.00   
Canisteo	   10     	!	0.12	saturated zone	•	saturated zone	  0.00    0.97
Nicollet	   10     	Low content of organic matter	0.12	saturated zone	0.12	saturated zone	  0.12    0.98
L84A: Glencoe	   80       	  Good     	           	saturated zone Low strength	0.00	saturated zone	    0.00     
Very poorly drained muck		Wind erosion	0.00  0.12	saturated zone	0.00	•	    0.00 
Canisteo	   5     	•	0.12	saturated zone	0.00	  Poor   Depth to   saturated zone   Carbonate content	į
Harps	   5     	•	0.12	  Poor   Depth to   saturated zone 	0.00	   Poor   Depth to   saturated zone   Carbonate content 	:

Table 12b.--Construction Materials--Continued

component name	•	:		•	ce	Potential as source of topsoil	
	1	Rating class and			•	Rating class and   limiting features	•
L85A: Nicollet	     85   	Low content of organic matter	0.12	saturated zone	0.12	saturated zone	      0.12    0.98
Clarion	i I	  Fair   Low content of   organic matter   Carbonate content   Water erosion	0.12      0.97	 	         	  Good     	         
Webster	i I	Low content of	İ	Depth to saturated zone	0.00	saturated zone	  0.00    0.99
L86A: Madelia		Low content of organic matter	0.12    0.98	saturated zone Shrink-swell	0.00	saturated zone	    0.00    0.98
Okoboji	   5   	•	    0.05 	Depth to saturated zone	0.00	saturated zone	  0.00    0.05
Spicer	į	  Fair   Carbonate content   Water erosion 	0.97	saturated zone	0.00	  Poor   Depth to   saturated zone   Carbonate content	•
Kingston	i I	Low content of	0.12	saturated zone	0.12		    0.12   
L87A: Kingston	   85     	:	0.12	saturated zone	0.12	  Fair   Depth to   saturated zone	    0.12   
Truman	   10     	Low content of organic matter	0.50	į	       	  Good   	       
Madelia	   5       		  0.98	Depth to saturated zone Shrink-swell	0.00	saturated zone	  0.00    0.98
L88A: Lura	   85     	•		  Poor   Depth to   saturated zone   Shrink-swell	0.00	Depth to	    0.00  0.00

Table 12b.--Construction Materials--Continued

component name	of map			•	ce	Potential as sou of topsoil	ırce
	unit   	Rating class and		   Rating class and   limiting features			
L88A: Brownton	l l 10	  Fair	l I	  Poor	l I	  Poor	1
		!	:	•			0.00
	İ	İ	İ	saturated zone	İ	saturated zone	İ
	ļ		ļ	Shrink-swell	0.68	Too clayey	0.12
Organic soil	   5	Poor	 	  Poor	 	  Poor	
Organic Boil	]	!	:	•		Depth to	0.00
	į	!	1	saturated zone	1	saturated zone	i
	ĺ	Low content of	0.50	Shrink-swell	0.74	Too clayey	0.08
	ļ	organic matter	:		!		İ
	 	Water erosion	0.99	 		 	!
L89A:	 	 	! 	 	! 	 	i
Guckeen	82	  Fair	i	  Fair	i	Fair	i
	ĺ	Too clayey	0.12	Depth to	0.12	Too clayey	0.12
		!	:	saturated zone	:	Depth to	0.12
					0.91	saturated zone	!
	 	water erosion 	0.99 	 	l I	 	1
Marna	10	  Fair	i	Poor	i	Poor	i
	į	Too clayey	0.05	Depth to	0.00	Depth to	0.00
		Carbonate content	0.97	saturated zone		saturated zone	1
			ļ	Shrink-swell	0.74	Too clayey	0.05
Clarion clay loam	l I 8	  Fair	l I	  Good	l I	  Good	-
Clarion Clay loam	:	!	0.12	!	<u> </u>		i
	į	organic matter	İ	İ	İ	İ	į
	ļ	Water erosion	0.99		ļ		ļ
L90A:	 	İ	 	 	 	 	!
Le Sueur	l   75	  Fair	İ	  Fair	İ	  Fair	i
	į	Low content of	0.12	Depth to	0.12	Depth to	0.12
		organic matter	l	saturated zone		saturated zone	
		'			0.98		!
	 	Carbonate content	0.97 	 	l I	 	-
Cordova	1 13	  Fair	i	Poor	i	Poor	i
	İ	Low content of	0.12	Depth to	0.00	Depth to	0.00
	!	organic matter		•		!	
		_	:	Shrink-swell	0.97	Too clayey	0.94
	 	Too clayey 	0.95 	 	l I	 	1
Reedslake	12	  Fair	i	  Fair	i	  Good	i
	ĺ	Low content of	0.12	Shrink-swell	0.99	ĺ	İ
		organic matter	:	!	!		!
	 	Carbonate content	0.97 	 	 	 	
L91A:	 	 	! 	I 	! 	[ 	
Mazaska	85	Poor	İ	Poor	İ	Poor	i
						Depth to	0.00
	ļ	!	:	saturated zone		saturated zone	
		organic matter	:	!	0.56	Too clayey	0.00
	 	Too acid Carbonate content	0.68  0.97	!	[ [	 	 
	I	l carponate content	0.37	I	I	I	1

Table 12b.--Construction Materials--Continued

component name	•			•	ce	   Potential as sou   of topsoil 	rce
	1	Rating class and		Rating class and   limiting features		•	•
L91A:							
Lerdal	1 10	Poor	 	  Fair	İ	  Poor	
	į	Too clayey	0.00	Depth to	0.22	Too clayey	0.00
		Low content of	0.12	saturated zone		Depth to	0.22
		organic matter		Shrink-swell	0.63	saturated zone	
		!	0.54	!		Too acid	0.98
	!	Carbonate content	:	!	ļ		ļ
	ļ	Water erosion	0.99		ļ		!
D-16-		 				   D = ===	
Rolfe		Poor   Too clayey		•		Poor	10.00
	:	Low content of	1	:	1	saturated zone	!
		organic matter		•	:		0.00
			0.95	•	1	100 014,0,	1
	i	!	0.99	!	i		i
	į	j	İ	İ	İ		į
L92A:	ĺ	ĺ	ĺ	İ	ĺ		İ
Darfur				•	1	Poor	
	:	Low content of	1	:	1	•	
	ļ	organic matter	!	saturated zone	ļ	saturated zone	!
m/ - 1.4		 				   D = ===	
Fieldon		•		Poor	,	Poor	10.00
		Low content of organic matter		saturated zone	1	saturated zone	!
		Carbonate content	1	:	1	Carbonate content	!
	i			! 	i		
Litchfield	5	Poor	i	  Fair	i	Poor	i
	i	Too sandy	0.00	Depth to	0.06	Too sandy	0.00
	į	Wind erosion	0.00	saturated zone	İ	Depth to	0.06
		Low content of	0.12			saturated zone	
		organic matter	1				
	ļ	Too acid	0.95		ļ		!
**-1		 				   D = ===	
Webster		Low content of		•		•	10.00
				saturated zone	:	saturated zone	!
		Too clayey		•			0.99
	i						
Dassel	2	Fair	i	Poor	i	Poor	i
	ĺ	Low content of	0.12	Depth to	0.00	Depth to	0.00
		organic matter		saturated zone		saturated zone	
	ļ	!	!	<u> </u>			
L93A:			ļ				!
Muskego	82			Poor		Poor	
				Depth to saturated zone		_	10.00
		Carbonate Content		•		saturated zone	1
		! 	! 	billing-bwell	10.55	Sacuraced Zone	
Blue Earth	10	  Fair	i	Poor	i	Poor	i
	i	Carbonate content	0.80	Depth to	0.00	Depth to	0.00
	İ	İ	İ	saturated zone	İ	saturated zone	İ
		I		I		Carbonate content	0.80
			l				
Mineral soil,		[		ļ	ļ		
drained	5			Poor	,	Poor	1
		Low content of	0.12	Depth to	0.00	_	0.00
	1	1	1				
		organic matter	!	saturated zone Shrink-swell	  0.95	saturated zone	

Table 12b.--Construction Materials--Continued

component name		!		•	ce	Potential as sou of topsoil	ırce
	   	Rating class and	•	Rating class and   limiting features		•	•
L93A: Belleville	     3 	Too sandy	0.01	  Poor   Depth to	0.00	:	      0.00
	   	organic matter	0.12   	saturated zone	   	saturated zone   Too sandy 	0.01
L94A: Lowlein	   75   	Low content of	0.12	  Fair   Depth to   saturated zone	0.88		0.88
Linder	   15     	Low content of	0.12 	  Fair   Depth to   saturated zone 	0.06 	  Fair   Depth to   saturated zone   Hard to reclaim	,
Dickinson		  Fair   Low content of   organic matter   Too acid	0.50	į	       	  Good   	     
Darfur		  Fair   Low content of   organic matter	0.12	  Poor   Depth to   saturated zone	0.00	  Poor   Depth to   saturated zone	    0.00
L95E: Hawick	   80       	Too sandy Droughty	!	į	0.68   	   Too sandy   Slope   Rock fragments   Hard to reclaim	
Estherville	   10     	Too sandy Droughty	  0.00  0.06  0.12	 	;     	  Poor   Too sandy   Slope   Rock fragments   Hard to reclaim	
Tomall	   10 	  Good 	   	  Good 	   	  Fair   Hard to reclaim	    0.92
L96B: Estherville	   55       	Too sandy Low content of organic matter	    0.00  0.12    0.30	    Good     	           	  Poor   Too sandy   Rock fragments   Hard to reclaim	    0.00  0.00  0.82
Hawick	   35     	  Poor   Too sandy   Droughty	į	  Good       	       	   Poor   Too sandy   Rock fragments   Hard to reclaim	  0.00  0.03  0.98
Tomall	   8 	  Good 	   	  Good 	   	  Fair   Hard to reclaim	    0.92

Table 12b.--Construction Materials--Continued

component name		:		•	ce	Potential as sou of topsoil	rce
	   	'		Rating class and limiting features			
L96B: Biscay		    Fair   Low content of   organic matter	0.12		0.00	    Poor   Depth to   saturated zone	      0.00
	   	Carbonate content		•	   	Hard to reclaim	
L97C: Hawick		 	ĺ	    Good	Ì	 	į
Hawlok	60     	Too sandy Droughty	0.00  0.06  0.12	 	     	<u>-</u>	0.00  0.03  0.96  0.98
Estherville	   30     	Too sandy Low content of organic matter	0.00  0.12 	 	;   	Rock fragments Hard to reclaim	:
Tomall	     10 	İ	0.30     	    Good 	į	Slope    Fair   Hard to reclaim	0.96        0.92
L98A: Crippin		Low content of organic matter	0.12 	saturated zone	0.12	    Fair   Depth to   saturated zone	      0.12
Nicollet	     40	•	i I	    Fair		    Fair	   
	   	organic matter	İ	Depth to   saturated zone   Shrink-swell	İ	saturated zone	0.12    0.98
Canisteo	:	•	0.12	  Poor   Depth to   saturated zone 	0.00	  Poor   Depth to   saturated zone   Carbonate content	
Clarion	   5   	organic matter Carbonate content	0.12    0.97	İ	       	  Good   	
7.00D	 	Water erosion 	0.99 	 		 	
L99B: Clarion	   62       	Low content of organic matter Carbonate content	0.12	 	       	  Good     	       
Swanlake	   25     	!	0.12 	İ	       	  Fair   Carbonate content   	     0.97 
Nicollet	   10     	Low content of organic matter	  0.12 	saturated zone	!	saturated zone	  0.12    0.98

Table 12b.--Construction Materials--Continued

component name	Pct. of map	reclamation mate		Potential as sour	ce	Potential as sour	rce
	unit   	Rating class and				   Rating class and   limiting features	Value
L99B:	 	 	 	 	 	 	 
Webster	3	Fair	İ	Poor	İ	Poor	İ
	İ	Low content of	0.12	Depth to	0.00	Depth to	0.00
	İ	organic matter	ĺ	saturated zone	İ	saturated zone	ĺ
	İ	Too clayey	0.99	Shrink-swell	0.99	Too clayey	0.99
L100B:							
Clarion	45	!	!	Good	!	Good	
	!	!	0.12		ļ	!	ļ
	!	organic matter	!		!		ļ
	!	Carbonate content   Water erosion	0.97	l I		 	
	!	water erosion	0 . 3 3 	 		 	l I
Estherville	l   35	l  Poor	i İ	  Good	1	Poor	i i
		•	0.00	•	i		0.00
	i		0.12	•	i	:	0.00
	i	organic matter	:			Hard to reclaim	
	i	Droughty	0.30	İ	i	İ	i
Lowlein	5	Fair		Fair	1	Fair	
		Low content of			:		0.88
	ļ	organic matter	!	saturated zone	ļ	saturated zone	ļ
224 22 1		 		 	!	 	ļ
Nicollet	5	Fair		Fair		Fair	
	!	Low content of organic matter	:	Depth to saturated zone		Depth to saturated zone	0.12
	1			!	:	!	  0.98
	l	100 Clayey	0.50 	billing-swell	1	100 Clayey	1
Swanlake	5	  Fair	i	  Good	i	  Fair	i
	:	!	0.12	!	i	Carbonate content	0.97
	į	organic matter	į	İ	į	j	į
		Carbonate content	0.97				
Webster	:	Fair	!	Poor		Poor	
	!	!	:	:	!	! -	0.00
	!		   0 00	•		saturated zone Too clayey	  0.99
	!	Too clayey	0 . 3 3 	suring-swell	10.99	100 Clayey	0.99 
L101C2:	l	! 	i i	! 	ŀ	! 	i
Omsrud, eroded	40	  Fair	i	  Good	i	  Fair	i
	i	Low content of	0.12	İ	i	Slope	0.96
	İ	organic matter	ĺ	İ	İ	Carbonate content	0.97
		Carbonate content	0.97				
	ļ	<u> </u>	!	<u> </u>	!	!	l
Hawick	30	•	!	Good	ļ	Poor	
	!	<u> </u>	0.00	!	!	•	0.00
	!	•	0.06	•		!	0.03
	!	Low content of organic matter		 		Slope   Hard to reclaim	0.96
	1	Organic maccer	l I	 		Hard to recraim	0.96 
	20	  Fair	i	  Good	i	  Fair	i
Storden, eroded	1	Low content of		•	i	!	0.96
Storden, eroded		•	•	İ	i	Carbonate content	0.97
Storden, eroded	 	organic matter		:	i	i	İ
Storden, eroded	   	organic matter Carbonate content			1	I	1
Storden, eroded Delft	         5		0.97   	Poor	:	    Poor	 
	         5	Carbonate content	0.97   	  Poor   Depth to	0.00	Depth to	      0.00
	         5 	Carbonate content	0.97   	  Poor   Depth to   saturated zone	0.00	Depth to saturated zone	      0.00
	       5   	Carbonate content	0.97   	  Poor   Depth to   saturated zone	0.00	Depth to saturated zone	    0.00   
	     	Carbonate content Good	0.97         	  Poor   Depth to   saturated zone	0.00    0.99	Depth to saturated zone	    0.00     

Table 12b.--Construction Materials--Continued

component name	of map	į		•	ce	Potential as sour	rce
	unit   	Rating class and				   Rating class and   limiting features	
L101D2: Omsrud, eroded	     40 	•	0.12	    Good 	       	    Poor   Slope   Carbonate content	      0.00  0.97
Hawick	     25 		į	  Good	     	    Poor   Too sandy	      0.00
	 	Droughty	0.06		 	-	0.00
Storden, eroded	   20     		0.12	į	       	  Poor   Slope   Carbonate content 	    0.00  0.97 
Ridgeton	   6 	  Good 	     	  Good 	   	  Fair   Slope	    0.37
Delft	   5   	  Good   	       	  Poor   Depth to   saturated zone   Shrink-swell	0.00 	saturated zone	    0.00   
Terril	   4   	  Good   	     	  Fair   Depth to   saturated zone	0.88	  Fair   Depth to   saturated zone	    0.88 
L102C2: Omsrud, eroded	     45   		0.12	į	         	  Fair   Slope   Carbonate content	      0.96  0.97
Storden, eroded	   25     	1	0.12 	j	       	  Fair   Slope   Carbonate content 	    0.96  0.97 
Omsrud	   15     	•	0.12 	  Good   	       	  Fair   Slope   Carbonate content 	    0.96  0.97 
Terril	1 10	  Good	!	  Good	!	  Good	! !
Delft	   5     	  Good       	         	saturated zone		saturated zone	    0.00     
L102D2: Omsrud, eroded	   45     		0.12	į	         	  Poor   Slope   Carbonate content   	    0.00  0.97 

Table 12b.--Construction Materials--Continued

component name	of map	!			ce	Potential as sour	rce
	unit   	'		   Rating class and   limiting features	•	   Rating class and   limiting features	
L102D2: Storden, eroded	     20   	  Fair   Low content of   organic matter   Carbonate content	0.12 	İ	         	  Poor   Slope   Carbonate content 	      0.00  0.97
Omsrud	   15     	:	0.12	į	:	  Poor   Slope   Carbonate content	    0.00  0.97
Ridgeton	   8 	  Good 	   	  Good 	   	  Fair   Slope	    0.37
Delft	   6     	  Good   	i I	saturated zone	0.00	saturated zone	    0.00   
Terril	   6   	  Good   	     	  Fair   Depth to   saturated zone	0.88	  Fair   Depth to   saturated zone	    0.88 
L103A: Fieldon	   50   	!	0.12	saturated zone	0.00	  Poor   Depth to   saturated zone   Carbonate content	    0.00    0.97
Canisteo	   35     	Low content of	0.12	saturated zone	0.00 	   Depth to   saturated zone   Carbonate content	į
Darfur	   10   		0.12	  Poor   Depth to   saturated zone	0.00	  Poor   Depth to   saturated zone	    0.00
Glencoe	   5       	  Good       	           	saturated zone		  Poor   Depth to   saturated zone 	    0.00     
L105C2: Lester, eroded	   45       	Low content of organic matter	0.88    0.97	 	      0.97   	  Fair   Slope   	    0.96   
Hawick	   35       	Too sandy Droughty	  0.00  0.06  0.12	İ	         	Rock fragments	  0.00  0.03  0.96  0.98
Terril	10	  Good 	   	  Good 	   	  Good 	   

Table 12b.--Construction Materials--Continued

component name	map	of   reclamation materi		•	ce	Potential as sou of topsoil	rce
	unit   	Rating class and		Rating class and   limiting features	•	Rating class and   limiting features	
L105C2: Hamel		  Fair   Low content of   organic matter	0.12	saturated zone	0.00	saturated zone	:
Storden, eroded	į Į	  Fair   Low content of   organic matter   Carbonate content	0.12	į	       	  Fair   Slope   Carbonate content 	    0.96  0.97 
L105D2: Lester, eroded	į Į	  Fair   Low content of   organic matter   Too acid   Carbonate content	0.88    0.97		      0.97   	  Poor   Slope 	      0.00   
Hawick	İ	Too sandy Droughty	    0.00  0.06  0.12	į	;   	Slope	  0.00  0.00  0.03  0.98
Ridgeton	   8 	  Good 	   	  Good 	:	  Fair   Slope	0.37
Hamel	:	  Fair   Low content of   organic matter 	0.12	saturated zone	0.00	saturated zone	    0.00   
Storden, eroded	i I	!	0.12	İ	       	  Poor   Slope   Carbonate content 	    0.00  0.97 
Terril	2   	  Good   	     	  Fair   Depth to   saturated zone	0.88	  Fair   Depth to   saturated zone	  0.88 
L106C2: Lester, eroded	   62         	Low content of organic matter	0.88    0.97	į	      0.97     	  Fair   Slope   	      0.96     
Storden, eroded	20     	:	0.12	  Good   	       	  Fair   Slope   Carbonate content 	  0.96  0.97
Terril	   10 	  Good 	   	  Good 	   	  Good 	   
Hamel	   5     	!	    0.12     	  Poor   Depth to   saturated zone   Shrink-swell	  0.00    0.99	saturated zone	    0.00     

Table 12b.--Construction Materials--Continued

	Pct. of map unit	reclamation mate		Potential as sour of roadfill	ce	Potential as sou of topsoil	rce
	•	Rating class and   limiting features		•		Rating class and   limiting features	
L106C2: Reedslake	     3   	•	0.12	  Fair   Shrink-swell 		    Good   	         
L106D2: Lester, eroded	į Į	Low content of organic matter	0.88    0.97	!		  Poor   Slope   	      0.00     
Storden, eroded	20	  Fair   Low content of   organic matter   Carbonate content	0.12	į	į	  Poor   Slope   Carbonate content 	  0.00  0.97
Ridgeton	   10 	  Good 	   	  Good 	:	  Fair   Slope	    0.37
Terril	   5 	  Good   		  Fair   Depth to   saturated zone	0.88	  Fair   Depth to   saturated zone	    0.88 
Hamel	   3   		0.12	   Poor   Depth to   saturated zone   Shrink-swell	0.00	saturated zone	    0.00   
L107A: Canisteo	     50   		0.12	  Poor   Depth to   saturated zone	0.00	  Poor   Depth to   saturated zone   Carbonate content	      0.00    0.97
Glencoe	   35       	  Good       	         	saturated zone	0.00	saturated zone	    0.00   
Harps	   10     	  Fair   Low content of   organic matter   Carbonate content	0.12 	saturated zone	0.00 	  Poor   Depth to   saturated zone   Carbonate content	    0.00    0.97
Canisteo, depressional	]   3   	!	!	saturated zone	0.00	saturated zone	    0.00 
Crippin	   2   	  Fair   Low content of   organic matter   Carbonate content	0.12 	saturated zone	0.12	! -	    0.12   

Table 12b.--Construction Materials--Continued

component name	of map	Pct.   Potential as sourc of   reclamation mater map   unit		•	ce	Potential as sou   of topsoil 	rce
	1	Rating class and	•	•		Rating class and limiting features	
L108A:	 	 	 	 	 	 	 
Cordova	65 			Poor   Depth to		Poor   Depth to	0.00
	j 	organic matter Too acid	0.84	saturated zone Shrink-swell	İ	saturated zone	0.94
	 	į	0.95 	İ			
Rolfe	30 		  0.00	Poor   Depth to	0.00	•	0.00
	 	organic matter	į	saturated zone Shrink-swell		saturated zone Too clayey	0.00
	 	Too acid Water erosion		•	 	 	 
Le Sueur	   5	  Fair	 	  Fair	 	  Fair	 
	j I	Low content of organic matter	•	Depth to saturated zone		•	0.12
	 	Too acid Carbonate content		Shrink-swell	0.98	 	   
L109A:	 	 	 	 	 	 	
Marna	65			Poor		Poor	
	   	:	:	Depth to   saturated zone   Shrink-swell	İ	saturated zone	0.00    0.05
			į	į	į	į	
Barbert	30   	Too clayey	0.00	Poor   Depth to   saturated zone   Shrink-swell	0.00	•	  0.00  0.00
- 1	_	 		į	į	į	ļ
Guckeen	:		  0.12	Depth to	•	Fair   Too clayey	0.12
	     	Low content of organic matter Water erosion	İ	Shrink-swell	:	:	0.12
L110E:		 	 	 	 	 	 
Lester	50			Fair		Poor	į
	     	Low content of   organic matter   Too acid   Carbonate content	  0.97	Shrink-swell	0.32  0.98 		0.00
Ridgeton	30	į	į	  Fair	:	  Poor	 
	 	 	 	Slope 	0.92 	Slope 	0.00 
Cokato	10   	  Fair   Low content of   organic matter	0.12	Fair   Slope 	:	Poor   Slope 	  0.00 
	 	Carbonate content   Water erosion	:	!	 	 	 
Belview	   6 	!	    0.12	  Fair   Slope	:	! -	    0.00
	 	organic matter Carbonate content	  0.97	 	 	Carbonate content	0.97 
Hamel	2	  Fair	:	  Poor	:	  Poor	
	   	Low content of   organic matter	0.12   	Depth to   saturated zone 	U.UU 	Depth to   saturated zone 	0.00

Table 12b.--Construction Materials--Continued

component name		!			ce	Potential as sou of topsoil	rce
	   	'	•	Rating class and limiting features		Rating class and limiting features	
L110E: Terril	     2	    Good 	     	    Good 	     	    Good 	   
L110F: Lester	   55     	Low content of organic matter	0.12	Shrink-swell	:	  Poor   Slope 	    0.00 
Ridgeton	   30 	  Good 	!	  Fair   Slope	!	  Poor   Slope	    0.00
Cokato			0.12    0.97		!	  Poor   Slope   	    0.00     
Belview	:	:	0.12	_	,	  Poor   Slope   Carbonate content 	    0.00  0.97 
Terril	   2 	  Good 	   	I  Good 	   	  Good 	   
Hamel	   1   	Fair   Low content of   organic matter	0.12	<u> </u>	0.00	Poor   Depth to   saturated zone	  0.00 
L111A: Nicollet	     85     	Low content of	0.12	saturated zone	0.12	saturated zone	      0.12   
Clarion	   10       	Low content of organic matter Carbonate content	0.12		         	  Good     	         
Webster	   5     	organic matter	0.12	saturated zone	0.00 	saturated zone	  0.00    0.99
L112A: Webster	     85     	Low content of organic matter	0.12	saturated zone	0.00 	saturated zone	      0.00    0.99
Glencoe	   10         	  Good       	j 	saturated zone Low strength	,	saturated zone	  0.00       

Table 12b.--Construction Materials--Continued

component name	map	reclamation mate:			ce	Potential as sou of topsoil	rce
	unit   	'		Rating class and   limiting features	,	   Rating class and   limiting features	
L112A: Nicollet	     5   	!	0.12 	saturated zone	0.12	  Fair   Depth to   saturated zone	      0.12 
L113B: Reedslake	     75   	!	0.12	į	      0.99 	  Good   	
Le Sueur	   10       	Low content of organic matter	0.12      0.97	saturated zone Shrink-swell	0.12	  Fair   Depth to   saturated zone 	  0.12   
Reedslake, eroded	   10     	!	0.12	į	    0.99   	  Good    -	       
Cordova	   5       	organic matter	0.12	saturated zone Shrink-swell	0.00	Poor   Depth to   saturated zone   Too clayey	  0.00    0.94
L114A: Hanlon, rarely flooded	       85   	    Good   	         	    Fair   Depth to   saturated zone	0.88	    Fair   Depth to   saturated zone	        0.88
Coland, occasionally flooded		!	!	saturated zone	0.00	  Poor   Depth to   saturated zone   Too clayey	0.00
Minneopa, rarely flooded	   5         	Too sandy Low content of organic matter	İ	saturated zone	    0.88     	·	  0.00  0.68  0.88
L115A: Brownton	   55     			saturated zone		  Poor   Depth to   saturated zone   Too clayey	0.00
Lura	   35       			  Poor   Depth to   saturated zone   Shrink-swell	    0.00    0.12	Depth to	  0.00  0.00 

Table 12b.--Construction Materials--Continued

		!		•		Potential as sou of topsoil	rce
	   	Rating class and		Rating class and   limiting features			•
L115A: Marna	     10   	Too clayey	0.05	  Poor   Depth to   saturated zone   Shrink-swell	0.00	saturated zone	
L116A: Le Sueur	j I	Low content of	0.12      0.97	•	0.12	saturated zone	
Lerdal	   40         	  Poor   Too clayey   Low content of   organic matter	    0.00  0.12    0.54  0.97	  Fair   Depth to   saturated zone   Shrink-swell 	İ	Too clayey Depth to saturated zone	    0.00  0.22    0.98
Mazaska	   10         	Too clayey Low content of organic matter	0.00  0.12      0.68	Depth to saturated zone Shrink-swell	į	Depth to saturated zone	    0.00    0.00 
Kilkenny	İ	Too clayey Low content of	0.00  0.12 	Depth to   saturated zone   Shrink-swell	İ	Too clayey Depth to	  0.00  0.24 
L117C2: Omsrud, eroded	j I	  Fair   Low content of   organic matter   Carbonate content	0.12 	İ	į	  Fair   Slope   Carbonate content 	    0.96  0.97
Omsrud	15     	:	0.12 	  Good   	       	  Fair   Slope   Carbonate content 	  0.96  0.97
Terril	1 10	  Good	 	  Good		  Good	
Delft	   5     	  Good     	         	saturated zone	0.00	saturated zone	    0.00   
Storden, eroded	5   5   	  Fair   Low content of   organic matter   Carbonate content	    0.12    0.97	  Good     	         	  Fair   Slope   Carbonate content   	  0.96  0.97 

Table 12b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	reclamation mate:		Potential as sour   of roadfill 	ce	Potential as source of topsoil	
	   		Value	Rating class and   limiting features	Value	Rating class and   limiting features	Value
L118A: Rushriver, frequently flooded	       85 	      Good 	         	    Poor   Depth to   saturated zone	        0.00	    Poor   Depth to   saturated zone	        0.00
Houghton, frequently flooded	•	    Poor   Wind erosion   	        0.00   	  -   Poor   Depth to   saturated zone 	        0.00	Rock fragments      Poor   Depth to   saturated zone   Content of   organic matter	0.72        0.00    0.00
Klossner, frequently flooded	:	!	      0.00  0.99 	  Poor   Depth to   saturated zone   Shrink-swell	      0.00    0.99	  Poor   Depth to   saturated zone	0.00
Medo, frequently flooded	   5       	  Poor   Wind erosion       	      0.00     	  Poor   Depth to   saturated zone   	    0.00     	  Poor   Depth to   saturated zone   Content of   organic matter   Hard to reclaim	    0.00    0.00    0.92
L119B: Angus	   80       	Low content of organic matter Too acid	    0.12    0.97  0.99	  Fair   Shrink-swell   	      0.99   	    Good     	
Angus, eroded	   10       	Low content of organic matter	0.88    0.97	  Fair   Shrink-swell   	    0.97   	  Good     	
Cordova	   	Low content of organic matter Too acid	0.12 	saturated zone Shrink-swell	0.00 	saturated zone	1
Le Sueur	   	  Fair   Low content of   organic matter   Too acid   Carbonate content	0.97	Depth to   saturated zone   Shrink-swell	İ	Depth to saturated zone	
L120A: Good Thunder	     	Too clayey Low content of organic matter Too acid Water erosion	0.50    0.97	Depth to saturated zone Shrink-swell	0.88	Depth to	  0.00  0.88   

Table 12b.--Construction Materials--Continued

component name		!		•	ce	Potential as sou of topsoil	ırce
	unit   	'		Rating class and limiting features		Rating class and limiting features	Value
L120A: Ocheyedan	     10 	    Fair   Low content of   organic matter	0.12	    Good 	     	    Good 	     
Minnetonka	       10	Water erosion 	0.90	      Poor	     	      Poor	   
ATMECOIKA	10       	Low content of organic matter Too clayey	0.00	Depth to saturated zone Shrink-swell	0.00 	!	0.00
L121B: Clarion	   80   	Low content of organic matter	0.12	İ	      0.98 	  Good 	       
Guckeen	     15       	  Fair   Too clayey   Low content of   organic matter	    0.12  0.12	  Fair   Depth to   saturated zone   Shrink-swell	0.12	  Fair   Too clayey   Depth to   saturated zone	    0.12  0.12
Marna	   5     	!	0.05	saturated zone	0.00 	Poor Depth to saturated zone Too clayey	0.00
L122B: Reedslake	   55     	!	0.12	į	      0.99 	  Good   	         
Estherville	   25       	Too sandy Low content of organic matter	  0.00  0.12 	į	         	   Poor   Too sandy   Rock fragments   Hard to reclaim	  0.00  0.00  0.82
Le Sueur	   10       	Low content of organic matter	0.12    0.97	•	0.12	saturated zone	  0.12   
Cordova	   5     	Low content of organic matter Too acid	0.12 	!	0.00 	saturated zone	  0.00    0.94
Lowlein	   5   	  Fair   Low content of   organic matter 	0.12	  Fair   Depth to   saturated zone 	0.88	  Fair   Depth to   saturated zone 	  0.88 

Table 12b.--Construction Materials--Continued

	map	Pct.   Potential as source of   reclamation materia map   unit			ce	Potential as sou of topsoil	rce
	•	Rating class and		Rating class and   limiting features		Rating class and   limiting features	Value
L123A: Belleville	     85   	Too sandy	0.01	  Poor   Depth to   saturated zone	0.00	saturated zone	      0.00    0.01
Granby	   	Wind erosion Low content of organic matter Too sandy	!	saturated zone		saturated zone	    0.00    0.36   
L124A:	i			 	İ		i
Glencoe mucky clay loam	   85     	  Good     	         	saturated zone Low strength	0.00	saturated zone	    0.00   
Canisteo	   10     	  Fair   Low content of   organic matter   Carbonate content	0.12	saturated zone	0.00	  Poor   Depth to   saturated zone   Carbonate content	    0.00    0.97
Glencoe clay loam	   5     	  Good     	         	saturated zone Low strength	0.00	saturated zone	    0.00     
L125A:	 	 	 	 	 	 	 
Hanlon, rarely flooded	   60   	  Good   	       	  Fair   Depth to   saturated zone	0.88	  Fair   Depth to   saturated zone	    0.88 
Coland, occasionally flooded			    0.98   	saturated zone	1	saturated zone	    0.00    0.98
Minneopa, rarely flooded	   15         	Too sandy Low content of organic matter	      0.00  0.12    0.93	saturated zone	      0.88     	:	    0.00  0.68  0.88
L126A: Coland, occasionally flooded		1	      0.98   	  Poor   Depth to   saturated zone   Shrink-swell	      0.00    0.92	saturated zone	      0.00    0.98

Table 12b.--Construction Materials--Continued

component name	Pct. of map unit	reclamation mate:		Potential as sour of roadfill	ce	Potential as sou: of topsoil	rce
	   	'		Rating class and limiting features		Rating class and limiting features	Value 
L126A: Minneopa, occasionally flooded	         10     	Too sandy Low content of organic matter	        0.00  0.12    0.93	saturated zone	            0.88	Rock fragments	        0.00  0.68  0.88
Havelock, occasionally flooded	     5       	organic matter Carbonate content	0.12 	saturated zone Shrink-swell	      0.00    0.86	saturated zone Carbonate content	      0.00    0.97  0.98
Spillville, occasionally flooded	   5     	    Good   	         	  Fair   Depth to   saturated zone   Shrink-swell	      0.12    0.94	saturated zone	      0.12   
L127A: Coland, frequently flooded	     80     	    Good     	             	  -  Poor   Depth to   saturated zone   Shrink-swell	      0.00    0.91	saturated zone	        0.00   
Minneopa, occasionally flooded	     10     	Low content of organic matter	      0.12    0.98	saturated zone	      0.88   	  Fair   Depth to   saturated zone	      0.88   
Havelock, frequently flooded	:	  Fair   Carbonate content   		saturated zone	0.00 	  Poor   Depth to   saturated zone   Carbonate content	
Spillville, occasionally flooded	   5     	    Good   	i I	 	0.12	saturated zone	
L128A: Mazaska	     	Too clayey Low content of organic matter Too acid Carbonate content	0.00  0.12    0.68	saturated zone Shrink-swell	Ì	Depth to saturated zone	

Table 12b.--Construction Materials--Continued

	Pct.  Potential as source   of   reclamation materia  map    unit			•	ce	Potential as source of topsoil		
	•	Rating class and		Rating class and   limiting features	•	Rating class and   limiting features	Value	
L128A: Rolfe	   30         	Too clayey Low content of organic matter Too acid	0.00  0.50	İ	0.00 	saturated zone	      0.00    0.00	
Lerdal	   	Too clayey Low content of organic matter Too acid Carbonate content	0.00  0.12    0.54	-   saturated zone   Shrink-swell	0.22	Depth to saturated zone	    0.00  0.22    0.98 	
L129B: Terril	90	  Good	!	  Good	 	  Good	 	
Delft	   5   	  Good   	       	saturated zone	0.00	saturated zone	    0.00   	
Hamel	   5   	!	!	saturated zone	!	  Poor   Depth to   saturated zone 	    0.00   	
L130A: Okoboji mucky silty clay loam		!	!	saturated zone	0.00 	saturated zone	        0.00	
Okoboji silty clay loam	     15   	!	      0.05 	saturated zone	0.00 	saturated zone	      0.00    0.05	
Brownton	   5   	!	:	saturated zone	0.00 	saturated zone	    0.00    0.12	
Spicer		Carbonate content	0.97	saturated zone	0.00 	  Poor   Depth to   saturated zone  Carbonate content	    0.00    0.97	
M-W: Water, miscellaneous U3B:	    100   	    Not rated   	       	    Not rated   	       	    Not rated   	       	
Udorthents (cut and fill land)		  Not rated 	   	    Not rated 	   	    Not rated 	:     	

Table 12b.--Construction Materials--Continued

Map symbol and	  Pct.	   Potential as sour	ce of	   Potential as sour	ce	   Potential as so	ırce
component name	of	reclamation mate	rial	of roadfill		of topsoil	
	map	İ				İ	
	unit						
	j	Rating class and	Value	Rating class and	Value	Rating class and	Value
		limiting features		limiting features		limiting features	
W:							
Water	- 100	Not rated		Not rated		Not rated	

Table 13.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. "Not rated" indicates that data are not available or that no rating is applicable. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	 	eas	   Embankments, dikes   levees 	, and	Aquifer-fed   excavated pond 	ls
	   		•	Rating class and   limiting features		Rating class and   limiting features	•
GP: Pits, gravel	     80	    Not rated	   	    Not rated	   	    Not rated	   
Udipsamments	20	  Not rated		  Not rated		  Not rated	
L5A:	 	 	 	 	 	 	
Delft, overwash	50     	Somewhat limited   Seepage   	•	Very limited   Depth to   saturated zone   Piping	  1.00    0.39	Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10 
Delft	   40     	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	1.00	Cutbanks cave	  0.30  0.10
Glencoe	   5     	  Somewhat limited   Seepage   	    0.70   	  Very limited   Ponding   Depth to   saturated zone   Piping	  1.00  1.00    0.45	!	  0.30  0.10 
Terril	   5     	  Somewhat limited   Seepage   	•	  Somewhat limited   Depth to   saturated zone   Piping	  0.87    0.45	Cutbanks cave	  0.28  0.10  0.06
L13A: Klossner, drained	   80       	! -	    1.00   	  Very limited   Depth to   saturated zone   Ponding   Piping	•	  Somewhat limited   Cutbanks cave   	0.10
Mineral soil,	 	 		 		 	
drained	15       	Somewhat limited   Seepage    -	  0.70     	Very limited   Depth to   saturated zone   Ponding   Piping	  1.00    1.00  0.43	Cutbanks cave	  0.30  0.10 
Houghton, drained	   5       	  Very limited   Seepage     	    1.00     	   Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	1.00    1.00	  Somewhat limited   Cutbanks cave     	  0.10     
L14A: Houghton, drained	   80         	  Very limited   Seepage     	    1.00       	  Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	    1.00    1.00    1.00	  Somewhat limited   Cutbanks cave   	    0.10     

Table 13.--Water Management--Continued

Map symbol and component name	Pct.   Pond reservoir areas   of    map    unit			   Embankments, dikes   levees 	, and	Aquifer-fed excavated ponds	
	unit   	'	Value	Rating class and   limiting features	Value	Rating class and   limiting features	Value
L14A: Klossner, drained	   10   10     		      1.00   	   Very limited   Depth to   saturated zone   Ponding   Piping	    1.00    1.00  0.48	  Somewhat limited   Cutbanks cave   	      0.10   
Mineral soil, drained	     10       	  Somewhat limited   Seepage   	      0.70     	  Very limited   Depth to   saturated zone   Ponding   Piping	    1.00    1.00  0.43	  Somewhat limited   Slow refill   Cutbanks cave   	    0.30  0.10 
L15A: Klossner, ponded	   30       	! -	    1.00   	  Very limited   Ponding   Depth to   saturated zone   Piping	  1.00  1.00    0.60	  Somewhat limited   Cutbanks cave   	    0.10   
Okoboji, ponded	   30       	•	    0.05   	Very limited   Ponding   Depth to   saturated zone   Hard to pack	  1.00  1.00    0.88		  0.30  0.10 
Glencoe, ponded	   30       	•	    0.70   	   Very limited   Ponding   Depth to   saturated zone   Piping	  1.00  1.00    0.16	   Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10 
Houghton, ponded	   10         	! -	    1.00       		  1.00    1.00  1.00	  Somewhat limited   Cutbanks cave     	    0.10       
L16A:	 	! [	i i	! [	i	 	i
Muskego, ponded	30           			organic matter	  1.00    1.00  1.00	Somewhat limited   Cutbanks cave       	  0.10       
Blue Earth, ponded	30             	•	  0.72           	Very limited   Content of   organic matter   Ponding   Depth to   saturated zone   Piping	  1.00    1.00  1.00    1.00	Somewhat limited   Slow refill   Cutbanks cave   	  0.28  0.10     

Table 13.--Water Management--Continued

Map symbol and component name	Pct. of map	Pond reservoir ar	eas	Embankments, dikes   levees	, and	Aquifer-fed   excavated pond	s
	unit   	'	Value	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value
L16A: Houghton, ponded	   30       	! -	      1.00     	  Very limited   Content of   organic matter   Ponding   Depth to   saturated zone	      1.00    1.00  1.00	    Somewhat limited   Cutbanks cave     	      0.10     
Klossner, ponded	   10       	! -	    1.00     	  Very limited   Ponding   Depth to   saturated zone   Piping	    1.00  1.00    0.60	  Somewhat limited   Cutbanks cave   	    0.10     
L26B: Shorewood	   90     	!	      0.70 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Deep to water   Cutbanks cave	  0.30  0.24  0.10
Good Thunder	   5   	  Somewhat limited   Seepage   	    0.72   	  Somewhat limited   Depth to   saturated zone   Piping	    0.87    0.18	  Somewhat limited   Slow refill   Cutbanks cave   Deep to water	  0.28  0.10  0.06
Minnetonka	   5   	  Somewhat limited   Seepage 	    0.57 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	  0.43  0.10
L36A: Hamel, overwash	     50   	!	      0.72 	  Very limited   Depth to   saturated zone   Piping	      1.00    0.01	  Somewhat limited   Slow refill   Cutbanks cave	    0.28  0.10
Hamel	   43   	  Somewhat limited   Seepage 	    0.72 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	  0.28  0.10
Terril	   5   	  Somewhat limited   Seepage   	    0.72   	  Somewhat limited   Piping   Depth to   saturated zone	    0.45  0.05		  0.60  0.28  0.10
Glencoe	   2       	  Somewhat limited   Seepage     	    0.70     	  Very limited   Depth to   saturated zone   Ponding   Piping	  1.00    1.00  0.43	  Somewhat limited   Slow refill   Cutbanks cave   	  0.30  0.10 
L40B: Angus	   45     	  Somewhat limited   Seepage   	      0.72   	  Somewhat limited   Piping   Depth to   saturated zone	    0.24  0.05	! -	  0.60  0.30  0.10
Kilkenny	   40       	!	    0.70     	  Very limited   Depth to   saturated zone   	    1.00     	  Somewhat limited   Slow refill   Deep to water   Cutbanks cave	  0.30  0.24  0.10

Table 13.--Water Management--Continued

component name	Pct. of map	 	Embankments, dikes   levees	, and	Aquifer-fed excavated ponds		
	unit   	'	Value	   Rating class and   limiting features		Rating class and limiting features	Value
L40B: Lerdal	     10   	!	      0.70 	    Very limited   Depth to   saturated zone	      1.00	    Somewhat limited   Slow refill   Cutbanks cave	      0.30  0.10
Mazaska	   5     	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.01	Cutbanks cave	  0.30  0.10
L41C2: Lester, eroded	     45 	!	      0.72	    Somewhat limited   Piping	0.23	    Very limited   Deep to water	1.00
Kilkenny, eroded	   40   	!	    0.70   	  Somewhat limited   Depth to   saturated zone   Hard to pack	    0.86    0.11	  Very limited   Deep to water   	  1.00 
Terril	   10     	!	    0.72 	  Somewhat limited   Piping   Depth to   saturated zone	    0.45  0.05		  0.60  0.28  0.10
Derrynane	   5   	!	    0.70 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	    0.30  0.10
L41D2: Lester, eroded	     45 	Seepage	      0.72  0.03	    Somewhat limited   Piping 	      0.23	    Very limited   Deep to water 	      1.00
Kilkenny, eroded	   35   	Seepage	    0.70  0.03		    0.86    0.11	_	  1.00 
Terril	   10   	!	    0.72   	  Somewhat limited   Piping   Depth to   saturated zone	    0.45  0.05		  0.60  0.28  0.10
Derrynane	   5   	  Somewhat limited   Seepage 	    0.70 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
Ridgeton	   5 	  Somewhat limited   Seepage	    0.72	  Somewhat limited   Piping	    0.42	  Very limited   Deep to water	1.00
L41E: Lester	     45   	Seepage	      0.72  0.18	    Somewhat limited   Piping 	      0.24	    Very limited   Deep to water 	      1.00
Kilkenny	   40   	Seepage	    0.70  0.18 	  Somewhat limited   Depth to   saturated zone	    0.86   	  Very limited   Deep to water   	    1.00 

Table 13.--Water Management--Continued

component name	Pct. Of map unit	 	eas	   Embankments, dikes   levees 	, and	Aquifer-fed   excavated pond 	ls
	   	'		Rating class and limiting features		Rating class and limiting features	Value
L41E: Terril	     5   	    Somewhat limited   Seepage   	      0.72 		      0.44  0.05	! -	    0.60  0.28  0.10
Derrynane	   5   	  Somewhat limited   Seepage 	    0.70 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
Ridgeton	   5   	!	    0.72  0.02	!	    0.39 	  Very limited   Deep to water 	    1.00
L48A: Derrynane, overwash	     50 	•	      0.70	    Very limited   Depth to   saturated zone	      1.00	    Somewhat limited   Slow refill   Cutbanks cave	    0.30  0.10
Derrynane	   40   	•	    0.70 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
Glencoe	   5     	  Somewhat limited   Seepage     	    0.70   	Depth to saturated zone	  1.00  1.00    0.45	!	  0.30  0.10 
Terril	   5     	  Somewhat limited   Seepage   	    0.72     	!	    0.45  0.05 	! -	  0.60  0.28  0.10
L49A: Klossner, surface drained	     65     	! -	      1.00   	saturated zone Ponding	    1.00    1.00  0.60	    Somewhat limited   Cutbanks cave     	      0.10   
Klossner, drained	   20         		    1.00     	saturated zone Ponding	  1.00    1.00  0.48	İ	  0.10     
Mineral soil, drained	   15         	!	    0.70     	saturated zone	  1.00    1.00  0.43	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10 

Table 13.--Water Management--Continued

component name	Pct. of map		eas	Embankments, dikes   levees 	, and	Aquifer-fed   excavated ponds 	
	unit   	'		   Rating class and   limiting features	•	Rating class and limiting features	Value
L50A: Houghton, surface drained	     40         	! -	          1.00     	Very limited Content of organic matter Depth to saturated zone Ponding	      1.00    1.00	    Somewhat limited   Cutbanks cave     	        0.10
Muskego, surface drained	   40   41       	! -	      1.00     	  Very limited   Content of   organic matter   Depth to   saturated zone   Ponding	    1.00    1.00 	  Somewhat limited   Cutbanks cave       	    0.10     
Klossner, drained	   10       	! -	    1.00     	  Very limited   Depth to   saturated zone   Ponding   Piping	  1.00    1.00  0.48	  Somewhat limited   Cutbanks cave   	  0.10   
Mineral soil, drained	   10         	•	    0.70     	saturated zone	  1.00    1.00  0.43	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10 
L51C2: Gladek, eroded	     80 	•	      0.70	    Somewhat limited   Piping	0.65	    Very limited   Deep to water	1.00
Barrington	   10     	•	    0.70   	  Somewhat limited   Depth to   saturated zone   Piping	    0.87    0.79	Slow refill	  1.00  0.30  0.06
Lester, eroded	   5 	  Somewhat limited   Seepage	    0.72	  Somewhat limited   Piping	0.23	  Very limited   Deep to water	1.00
Madelia	   5     	•	    0.70   		    1.00    0.34	Cutbanks cave	  0.30  0.10
L56A: Muskego, frequently flooded	     45         	! -	        1.00       	organic matter		  -  Somewhat limited   Cutbanks cave     	        0.10     

Table 13.--Water Management--Continued

component name	Pct. of map	į	Embankments, dikes   levees 	, and	Aquifer-fed   excavated pond 	s	
	unit   	'	Value	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value
L56A: Klossner, frequently flooded	:	    Very limited   Seepage   	        1.00   	Depth to saturated zone	      1.00  1.00    0.60	    Somewhat limited   Cutbanks cave   	        0.10   
Suckercreek, frequently flooded	     10     	! -	      1.00   	saturated zone	      1.00    0.62	  Very limited   Cutbanks cave   	    1.00 
L57A: Medo, drained	   80       		    1.00     	Depth to saturated zone	  1.00  1.00    0.43	  Very limited   Cutbanks cave     	    1.00     
Mineral soil, drained	     15     		      1.00   	Depth to saturated zone	    1.00  1.00    0.09	  Very limited   Cutbanks cave     	    1.00   
Houghton, drained	   5       	  Very limited   Seepage     	    1.00       	organic matter	    1.00    1.00  1.00	  Somewhat limited   Cutbanks cave   	    0.10     
L63A: Klossner	     85       		      1.00   	!	    1.00  1.00    0.01	  Somewhat limited   Cutbanks cave   	      0.10   
Lura	   10       	•	    0.01   	Depth to saturated zone	  1.00  1.00    0.81		  0.99  0.10 
Brownton	   5   	  Somewhat limited   Seepage 	    0.70 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
L64A: Tadkee	     50     		      1.00   	  Very limited   Depth to   saturated zone   Seepage	    1.00    1.00	  Very limited   Cutbanks cave     	    1.00   

Table 13.--Water Management--Continued

Map symbol and component name	Pct. of	   Pond reservoir are   	eas	   Embankments, dikes   levees 	, and	   Aquifer-fed   excavated pond	s
	unit   		Value	   Rating class and   limiting features	Value	Rating class and limiting features	Value
L64A: Tadkee, depressional	   36         		      1.00     	Depth to saturated zone Seepage	    1.00  1.00    1.00  0.92	  Very limited   Cutbanks cave     	      1.00     
Better drained soil	   8       	  Very limited   Seepage   	    1.00     	saturated zone	  0.87    0.85  0.22	Very limited Cutbanks cave Slow refill Deep to water	  1.00  0.30  0.06
Granby	4       	   Very limited   Seepage   	  1.00     	Depth to saturated zone	  1.00  1.00    0.62	   Very limited   Cutbanks cave   	  1.00     
Less sandy soil	   2     	  Somewhat limited   Seepage   	    0.70   	saturated zone	  1.00    0.32	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10 
L73A: Blue Earth	   80         	1	    0.70       	Depth to saturated zone Piping	  1.00  1.00    1.00  1.00	  Somewhat limited   Slow refill   Cutbanks cave   	    0.30  0.10   
Belleville	   10     		    1.00   	saturated zone	    1.00    0.85	  Very limited   Cutbanks cave   	    1.00   
Canisteo	   10       	  Somewhat limited   Seepage   	    0.70     	saturated zone	 	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10 
L74A: Estherville	   87 	! -	    1.00	  Somewhat limited   Seepage	    0.98	  Very limited   Deep to water	    1.00
Hawick	   10 		    1.00	  Somewhat limited   Seepage	    0.93	  Very limited   Deep to water	    1.00
Biscay	   3     	  Very limited   Seepage   	    1.00     	saturated zone	    1.00    0.91 	  Very limited   Cutbanks cave     	 
L75B: Barrington	   85     	!	    0.70     	saturated zone	    0.87    0.79	Slow refill	    1.00  0.30  0.06

Table 13.--Water Management--Continued

Map symbol and component name	Pct. of map	 	eas	Embankments, dikes   levees 	, and	Aquifer-fed excavated pond	ls
	unit   		Value	Rating class and   limiting features	Value	Rating class and   limiting features	Value
L75B: Gladek	     10 	    Somewhat limited   Seepage	      0.70	    Somewhat limited   Piping	      0.65	    Very limited   Deep to water	      1.00
Madelia	   5     	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.34	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10
L76B: Dickinson	     80 		      1.00	    Somewhat limited   Seepage	0.62	    Very limited   Deep to water	1.00
Litchfield	   13   		    1.00 	  Very limited   Depth to   saturated zone   Seepage	  1.00    0.57	  Very limited   Cutbanks cave   	  1.00 
Darfur	   5   	  Very limited   Seepage   	    1.00   	  Very limited   Depth to   saturated zone   Seepage	    1.00    0.11	  Very limited   Cutbanks cave   	    1.00 
Clarion	   2     	  Somewhat limited   Seepage   	    0.70   	  Somewhat limited   Piping   Depth to   saturated zone	    0.79  0.05 	   Somewhat limited   Deep to water   Slow refill   Cutbanks cave	  0.60  0.30  0.10
L77A: Brownton	   75   	  Somewhat limited   Seepage	      0.70	  Very limited   Depth to   saturated zone	    1.00	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
Marna	   15   	  Somewhat limited   Seepage 	    0.70 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
Lura	   10       	  Somewhat limited   Seepage     	  0.01     	  Very limited   Ponding   Depth to   saturated zone   Hard to pack	  1.00  1.00      0.81	  Somewhat limited   Slow refill   Cutbanks cave   	  0.99  0.10 
L78A: Canisteo	   65     	  Somewhat limited   Seepage 	    0.70 	  Very limited   Depth to   saturated zone   Piping	    1.00    0.29	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
Crippin	   10     	'	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.38	Cutbanks cave	  0.30  0.10
Glencoe	   10       	  Somewhat limited   Seepage   	    0.70     	  Very limited   Ponding   Depth to   saturated zone   Piping	  1.00  1.00      0.45	Cutbanks cave	  0.30  0.10 

Table 13.--Water Management--Continued

	Pct. of map unit	 	eas	   Embankments, dikes   levees 	, and	Aquifer-fed excavated ponds	
	 			Rating class and   limiting features	•	Rating class and   limiting features	Value
L78A: Canisteo, depressional	       5     	1	        0.70   	  Very limited   Ponding   Depth to   saturated zone   Piping	1.00	į	        0.30  0.10
Harps	   5   	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	1.00	Cutbanks cave	  0.28  0.10
Webster	   5   	  Somewhat limited   Seepage   		  Very limited   Depth to   saturated zone   Piping	1.00	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10
L79B: Clarion	     65   	!	!	  Somewhat limited   Piping   Depth to   saturated zone	0.79	  Somewhat limited   Deep to water   Slow refill   Cutbanks cave	    0.60  0.30  0.10
Clarion, eroded	   25     		    0.70   		0.86	  Somewhat limited   Deep to water   Slow refill   Cutbanks cave	  0.60  0.30  0.10
Nicollet	   8   	  Somewhat limited   Seepage   		  Very limited   Depth to   saturated zone   Piping	1.00	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10
Webster	   2     	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	•	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10
L80C2: Lester, eroded	     75 	    Somewhat limited   Seepage	      0.72	    Somewhat limited   Piping	0.23	  Very limited   Deep to water	1.00
Terril	   10     	•			0.45	Slow refill	  0.60  0.28  0.10
Hamel	   5   	  Somewhat limited   Seepage 	    0.72 	  Very limited   Depth to   saturated zone	1.00	  Somewhat limited   Slow refill   Cutbanks cave	0.28
Reedslake	   5     	  Somewhat limited   Seepage   	    0.72   		0.27		  0.60  0.30  0.10
Storden, eroded	   5 	  Somewhat limited   Seepage 	    0.72 	  Somewhat limited   Piping 		  Very limited   Deep to water 	    1.00

Table 13.--Water Management--Continued

component name	  Pct.   of  map  unit		eas	   Embankments, dikes   levees 	, and	Aquifer-fed excavated ponds		
	unitc   			   Rating class and   limiting features		Rating class and limiting features	Value	
L80D2: Lester, eroded	     75   	Seepage	      0.72  0.03	!	      0.23	    Very limited   Deep to water 	      1.00	
Ridgeton	   10   	Seepage	    0.72  0.01	!	    0.42 	  Very limited   Deep to water 	  1.00 	
Storden, eroded	   8 		    0.72  0.03	!	    0.62 	  Very limited   Deep to water 	    1.00 	
Terril	   5     	  Somewhat limited   Seepage   	    0.72   	saturated zone	•	  Somewhat limited   Slow refill   Cutbanks cave   Deep to water	  0.28  0.10  0.06	
Hamel	   2   	  Somewhat limited   Seepage   	    0.72   	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	  0.28  0.10	
L81A: Cordova	     85   		      0.70 	saturated zone	    1.00    0.02	Cutbanks cave	  0.30  0.10	
Le Sueur	   10   	!	    0.72   	saturated zone	    1.00    0.15	Cutbanks cave	  0.28  0.10	
Rolfe	   5       	  Somewhat limited   Seepage     	    0.70     	-	  1.00  1.00    0.03	:	  0.28  0.10 	
L82A: Marna	     85 	!	      0.70	  Very limited   Depth to   saturated zone	1.00	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10	
Barbert	   10       	•	    0.70     	Depth to saturated zone	1.00	Cutbanks cave	  0.30  0.10 	
Guckeen	   5     	  Somewhat limited   Seepage   	    0.70     	saturated zone	0.87	  Somewhat limited   Slow refill   Cutbanks cave   Deep to water	  0.30  0.10  0.06	
L83A: Webster	   65     	•	    0.70   	  Very limited   Depth to   saturated zone   Piping		  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10 	

Table 13.--Water Management--Continued

component name	Pct. of map			   Embankments, dikes   levees 	, and	Aquifer-fed excavated ponds		
	unit   		•	   Rating class and   limiting features	•	   Rating class and   limiting features	Value	
L83A: Glencoe	     15     	1	      0.70   	Very limited Ponding Depth to saturated zone	    1.00  1.00    0.45	    Somewhat limited   Slow refill   Cutbanks cave   	      0.30  0.10	
Canisteo	   10     	!	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.61	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10	
Nicollet	   10     	1	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.10	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10	
L84A: Glencoe	   80         	1	      0.70     	  Very limited   Ponding   Depth to   saturated zone   Piping	    1.00  1.00    0.45	•	    0.30  0.10 	
Very poorly drained muck	     10     	  Somewhat limited   Seepage   	      0.70   	  Very limited   Ponding   Depth to   saturated zone   Piping	    1.00  1.00    0.50	  Somewhat limited   Cutbanks cave   	    0.10   	
Canisteo	   5   	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.29	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10	
Harps	   5       	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.24	  Somewhat limited   Slow refill   Cutbanks cave 	  0.28  0.10 	
L85A: Nicollet	   85     	  Somewhat limited   Seepage 	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.10	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10	
Clarion	   10     	'	    0.70   	  Somewhat limited   Piping   Depth to   saturated zone	    0.79  0.05		  0.60  0.30  0.10	
Webster	   5     	  Somewhat limited   Seepage   	    0.70     	  Very limited   Depth to   saturated zone   Piping 	    1.00    0.19	  Somewhat limited   Slow refill   Cutbanks cave   	  0.30  0.10 	

Table 13.--Water Management--Continued

	Pct. of map	 	eas	Embankments, dikes	, and	Aquifer-fed excavated pond	ls
	unit   	'	Value	Rating class and   limiting features	•	Rating class and   limiting features	Value
L86A: Madelia	     90   	!	      0.70   	saturated zone	      1.00    0.34	Cutbanks cave	    0.30  0.10
Okoboji	   5     	  Somewhat limited   Seepage     	    0.05   	Depth to saturated zone	  1.00  1.00    0.72	!	  0.95  0.10 
Spicer	   3   	  Somewhat limited   Seepage   	    0.70   	saturated zone	    1.00    0.50	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10
Kingston	   2     	  Somewhat limited   Seepage   	    0.72   	saturated zone	    1.00    0.83	  Somewhat limited   Slow refill   Cutbanks cave	  0.28  0.10
L87A: Kingston	     85     		      0.72   	saturated zone	      1.00    0.83	  Somewhat limited   Slow refill   Cutbanks cave	    0.28  0.10
Truman	   10   	!	    0.70   	!	    0.98  0.05	! -	  0.60  0.30  0.10
Madelia	   5     	  Somewhat limited   Seepage   	    0.70   	saturated zone	    1.00    0.34	Cutbanks cave	  0.30  0.10
L88A: Lura	     85     	  Somewhat limited   Seepage   	      0.01   	Depth to saturated zone	    1.00  1.00    0.81	:	    0.99  0.10 
Brownton	   10   		    0.70 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
Organic soil	   5         	  Somewhat limited   Seepage     	    0.70     	!	  1.00  1.00    0.19	!	  0.10     
L89A: Guckeen	   82       	!	      0.70   	  Very limited   Depth to   saturated zone   Piping 	    1.00    0.10	Cutbanks cave	  0.30  0.10 

Table 13.--Water Management--Continued

component name	component name   of   map				, and	Aquifer-fed excavated ponds		
	unit   	'		   Rating class and   limiting features		   Rating class and   limiting features	Value	
L89A: Marna	     10   	•	      0.70 	    Very limited   Depth to   saturated zone	!	    Somewhat limited   Slow refill   Cutbanks cave	      0.30  0.10	
Clarion clay loam	   8     	  Somewhat limited   Seepage   	    0.70   		    0.73  0.05 		  0.60  0.30  0.10	
L90A: Le Sueur	     75   	!	      0.72   	saturated zone	      1.00    0.15	  Somewhat limited   Slow refill   Cutbanks cave 	    0.28  0.10	
Cordova	   13   	!	    0.70   	saturated zone	    1.00    0.02	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10	
Reedslake	   12     	!	    0.72   		    0.27  0.05	! -	  0.60  0.30  0.10	
L91A: Mazaska	     85   	!	      0.70 	saturated zone	      1.00    0.01	Cutbanks cave	    0.30  0.10	
Lerdal	   10   	!	    0.70 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	    0.30  0.10	
Rolfe	   5       	  Somewhat limited   Seepage     	    0.70     	Depth to saturated zone	  1.00  1.00    0.03	Cutbanks cave	  0.28  0.10 	
L92A: Darfur	   78   			saturated zone		  Very limited   Cutbanks cave   	    1.00 	
Fieldon	   10     		    1.00   	saturated zone		  Very limited   Cutbanks cave   	    1.00 	
Litchfield	   5     	  Very limited   Seepage   	    1.00     	saturated zone		  Very limited   Cutbanks cave   	    1.00   	

Table 13.--Water Management--Continued

component name	Pct. of map	 	eas	Embankments, dikes   levees 	, and	Aquifer-fed excavated pond	s
	unit   			   Rating class and   limiting features			
L92A: Webster	     5   	    Somewhat limited   Seepage   	      0.70 	saturated zone	1.00	  Somewhat limited   Slow refill   Cutbanks cave 	    0.30  0.10
Dassel	   2       	  Very limited   Seepage     	    1.00     	saturated zone Ponding		!	    1.00     
L93A: Muskego	   82           	  Not limited         	           	organic matter Ponding	1.00    1.00  1.00	!	    0.10       
Blue Earth	   10             		  0.70         	Depth to   saturated zone   Piping	1.00	1	  0.30  0.10     
Mineral soil, drained	   5     	  Somewhat limited   Seepage   	    0.70   	Depth to saturated zone	1.00	Cutbanks cave	0.30
Belleville	   3     	! -	    1.00   	  Very limited   Depth to   saturated zone   Piping		  Very limited   Cutbanks cave   	    1.00   
L94A: Lowlein	   75   	:	    1.00 		1.00	  Very limited   Cutbanks cave   Deep to water 	  1.00  0.06
Linder	   15     		    1.00   	  Very limited   Depth to   saturated zone   Seepage		  Very limited   Cutbanks cave   	    1.00   
Dickinson	   8   	  Very limited   Seepage 	    1.00	  Somewhat limited   Seepage 	    0.62 	  Very limited   Deep to water 	    1.00
Darfur	2       	  Very limited   Seepage     	  1.00     	  Very limited   Depth to   saturated zone   Seepage 		  Very limited   Cutbanks cave     	  1.00   

Table 13.--Water Management--Continued

component name	Pct. of map	 	eas	Embankments, dikes   levees 	, and	Aquifer-fed   excavated pond 	ls
	unit   	   Rating class and   limiting features		   Rating class and   limiting features	Value	   Rating class and   limiting features	Value
L95E: Hawick	     80 	Seepage	      1.00  0.10	    Somewhat limited   Seepage 	      0.93	    Very limited   Deep to water 	      1.00
Estherville	   10 	Seepage	    1.00  0.03		    0.98 	  Very limited   Deep to water 	    1.00
Tomall	   10   	! - T	    1.00 	  Somewhat limited   Seepage 	    0.22 	  Very limited   Cutbanks cave   Deep to water	  1.00  0.81
L96B: Estherville	     55 	: -	      1.00	    Somewhat limited   Seepage	      0.98	    Very limited   Deep to water	
Hawick	   35 	! - T	1	  Somewhat limited   Seepage	0.93	  Very limited   Deep to water	1.00
Tomall	   8   	  Very limited   Seepage 	    1.00 	  Somewhat limited   Seepage 	    0.22 	  Very limited   Cutbanks cave   Deep to water	  1.00  0.81
Biscay	   2     	  Very limited   Seepage   	    1.00   	saturated zone	    1.00    0.91	  Very limited   Cutbanks cave   	  1.00 
L97C:	l I	 		 		 	1
Hawick	   60   	: -	    1.00	  Somewhat limited   Seepage 	    0.93	  Very limited   Deep to water 	1.00
Estherville	   30 	! - T	1.00	Somewhat limited   Seepage	0.98	  Very limited   Deep to water	1.00
Tomall	   10     	!	    1.00 	  Somewhat limited   Seepage   	    0.22 	  Very limited   Cutbanks cave   Deep to water 	  1.00  0.81
L98A: Crippin	   50     	•	    0.70 	  Very limited   Depth to   saturated zone   Piping	    1.00    0.38	Cutbanks cave	  0.30  0.10
Nicollet	   40   	!	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.10	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10
Canisteo	   5     	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.29	Cutbanks cave	  0.30  0.10
Clarion	   5       	  Somewhat limited   Seepage     	    0.70   	  Somewhat limited   Piping   Depth to   saturated zone	    0.79  0.05 		  0.60  0.30  0.10

Table 13.--Water Management--Continued

component name	Pct. of map	 	eas	Embankments, dikes	, and	Aquifer-fed excavated pond	ls
	unit	   Rating class and	112	Pating class and	l Waluc	Rating class and	Value
	 	limiting features	value	limiting features	varue	limiting features	value
	ļ	ļ		ļ		!	!
L99B: Clarion	   62   	!	    0.70 	!	    0.79  0.05		    0.60  0.30
	!	!		saturated zone		Cutbanks cave	0.10
Swanlake	   25   	!	    0.70 		    0.32  0.05	!	    0.60  0.30
				saturated zone		Cutbanks cave	0.10
Nicollet	   10     	!	    0.70   	saturated zone	 	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10
Webster	   3   	  Somewhat limited   Seepage   	    0.70   	saturated zone	    1.00    0.19	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
L100B:	 	 	 	 	 	  -	
Clarion	   45   	!	    0.70   	  Somewhat limited   Piping   Depth to   saturated zone	    0.79  0.05	!	  0.60  0.30  0.10
Estherville	   35 	! - T	    1.00	  Somewhat limited   Seepage	    0.98	  Very limited   Deep to water	    1.00
Lowlein	   5     	  Very limited   Seepage   	    1.00     	Depth to saturated zone	  1.00  0.87    0.09	  Very limited   Cutbanks cave   Deep to water 	  1.00  0.06
Nicollet	   5   	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.10	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
Swanlake	   5   	  Somewhat limited   Seepage   	    0.70   		    0.32  0.05	•	  0.60  0.30  0.10
Webster	   5     	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.19	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
L101C2: Omsrud, eroded	     40 	!	      0.70	    Somewhat limited   Piping	      0.34	    Very limited   Deep to water	      1.00
Hawick	   30 	! -	    1.00	  Somewhat limited   Seepage	    0.93	  Very limited   Deep to water	1.00
Storden, eroded	   20 	•	    0.70	  Somewhat limited   Piping	    0.32	  Very limited   Deep to water	1.00

Table 13.--Water Management--Continued

component name	Pct. of map	 	eas	Embankments, dikes   levees 	, and	Aquifer-fed excavated pond	ls
	unit   	'		   Rating class and   limiting features	•	   Rating class and   limiting features	Value
L101C2: Delft	     5   	    Somewhat limited   Seepage   	      0.70 	  Very limited   Depth to   saturated zone   Piping	      1.00    0.41	Cutbanks cave	    0.30  0.10
Terril	   5     	  Somewhat limited   Seepage   	    0.72     	  Somewhat limited   Piping   Depth to   saturated zone	!	  Somewhat limited   Deep to water   Slow refill   Cutbanks cave	  0.60  0.28  0.10
L101D2: Omsrud, eroded	   40 	Seepage	    0.70  0.03	!	    0.34 	  Very limited   Deep to water 	    1.00
Hawick	   25   	Seepage	    1.00  0.03		    0.93 	  Very limited   Deep to water 	  1.00 
Storden, eroded	   20   	Seepage	  0.70  0.03	!	0.32	  Very limited   Deep to water 	1.00
Ridgeton	   6   	Seepage	  0.72  0.01	!	    0.42 	  Very limited   Deep to water 	1.00
Delft	   5     	!	    0.70   	  Very limited   Depth to   saturated zone   Piping	  1.00    0.41	Cutbanks cave	  0.30  0.10
Terril	   4     	  Somewhat limited   Seepage   	    0.72   	  Somewhat limited   Depth to   saturated zone   Piping	    0.87    0.45	Cutbanks cave	  0.28  0.10  0.06
L102C2: Omsrud, eroded	     45 		      0.70	    Somewhat limited   Piping	0.34	    Very limited   Deep to water	      1.00
Storden, eroded	   25 	!	    0.70	  Somewhat limited   Piping	0.32	  Very limited   Deep to water	1.00
Omsrud	   15 		0.70	  Somewhat limited   Piping	0.35	  Very limited   Deep to water	1.00
Terril	   10   	!	    0.72   	  Somewhat limited   Piping   Depth to   saturated zone	    0.45  0.05		  0.60  0.28  0.10
Delft	   5   	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.41	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10

Table 13.--Water Management--Continued

	Pct. of map	 	eas	   Embankments, dikes   levees 	, and	Aquifer-fed   excavated pond 	s
	unit   	'	Value	   Rating class and   limiting features		   Rating class and   limiting features	Value
L102D2: Omsrud, eroded	     45   	!	      0.70  0.03	  Somewhat limited   Piping 	      0.34	  Very limited   Deep to water 	      1.00
Storden, eroded	   20   	!	  0.70  0.03	  Somewhat limited   Piping 	    0.32 	  Very limited   Deep to water 	    1.00
Omsrud	   15   	!	    0.70  0.03	  Somewhat limited   Piping 	    0.35 	  Very limited   Deep to water 	    1.00
Ridgeton	   8   	  Somewhat limited   Seepage   Slope	    0.72  0.01	  Somewhat limited   Piping 	    0.42 	  Very limited   Deep to water 	    1.00
Delft	   6   	  Somewhat limited   Seepage   	    0.70   	saturated zone	    1.00    0.41	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
Terril	   6   	  Somewhat limited   Seepage   	    0.72   	saturated zone	    0.87    0.45	Cutbanks cave	  0.28  0.10  0.06
L103A: Fieldon	     50   	! =	      1.00 	saturated zone	      1.00    0.11	  Very limited   Cutbanks cave   	      1.00 
Canisteo	   35     	  Somewhat limited   Seepage   	    0.70   	saturated zone	    1.00    0.29	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10
Darfur	   10     	  Very limited   Seepage   	    1.00   	  Very limited   Depth to   saturated zone   Seepage	    1.00    0.11	  Very limited   Cutbanks cave   	    1.00 
Glencoe	   5       	  Somewhat limited   Seepage     	    0.70     	!	  1.00  1.00    0.45	!	  0.30  0.10 
L105C2: Lester, eroded	     45 	    Somewhat limited   Seepage	0.72	    Somewhat limited   Piping	0.23	    Very limited   Deep to water	1.00
Hawick	   35 	  Very limited   Seepage	    1.00	  Somewhat limited   Seepage	    0.93	  Very limited   Deep to water	    1.00
Terril	   10       	  Somewhat limited   Seepage     	    0.72     		    0.45  0.05 		  0.60  0.28  0.10

Table 13.--Water Management--Continued

component name	Pct. of map		Embankments, dikes	, and	Aquifer-fed excavated pond	ls	
	unit   			   Rating class and   limiting features		   Rating class and   limiting features	Value
L105C2: Hamel	     5 	    Somewhat limited   Seepage 	      0.72	    Very limited   Depth to   saturated zone	      1.00	  Somewhat limited  Slow refill  Cutbanks cave	    0.28  0.10
Storden, eroded	   5 	  Somewhat limited   Seepage	    0.70	  Somewhat limited   Piping	    0.32	  Very limited   Deep to water	1.00
L105D2: Lester, eroded	     45   	Seepage	      0.72  0.03		      0.23	  Very limited   Deep to water 	      1.00
Hawick	   35   	Seepage	    1.00  0.03		    0.93 	  Very limited   Deep to water 	    1.00 
Ridgeton	   8   		    0.72  0.01		    0.42 	  Very limited   Deep to water 	    1.00
Hamel	   5   	  Somewhat limited   Seepage 	    0.72 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	  0.28  0.10
Storden, eroded	   5   		  0.70  0.03		    0.32 	  Very limited   Deep to water 	1.00
Terril	   2     	  Somewhat limited   Seepage   	    0.72   	  Somewhat limited   Depth to   saturated zone   Piping	    0.87    0.45	Cutbanks cave	  0.28  0.10  0.06
L106C2: Lester, eroded	     62 	'	      0.72	    Somewhat limited   Piping	      0.23	    Very limited   Deep to water	
Storden, eroded	   20 	1	    0.70	  Somewhat limited   Piping	    0.32	  Very limited   Deep to water	1   1.00
Terril	   10     	•	    0.72   		  0.45  0.05		  0.60  0.28  0.10
Hamel	   5   	  Somewhat limited   Seepage 	    0.72 	  Very limited   Depth to   saturated zone	    1.00	  Somewhat limited   Slow refill   Cutbanks cave	  0.28  0.10
Reedslake	   3     	  Somewhat limited   Seepage   	    0.72     	  Somewhat limited   Piping   Depth to   saturated zone	    0.27  0.05 		  0.60  0.30  0.10
L106D2: Lester, eroded	   62 	Seepage	    0.72  0.03		      0.23	  Very limited   Deep to water	    1.00

Table 13.--Water Management--Continued

Map symbol and component name	Pct. of map unit	 	eas	   Embankments, dikes   levees 	, and	Aquifer-fed excavated ponds	
	   	Rating class and limiting features	Value	Rating class and   limiting features	Value	Rating class and   limiting features	Value
L106D2: Storden, eroded	     20 	Seepage	      0.70  0.03	    Somewhat limited   Piping 	      0.32	    Very limited   Deep to water 	      1.00
Ridgeton	   10   	Seepage	    0.72  0.01	!	    0.42 	  Very limited   Deep to water 	    1.00 
Terril	   5     	  Somewhat limited   Seepage   	    0.72   	  Somewhat limited   Depth to   saturated zone   Piping	    0.87    0.45	Cutbanks cave	  0.28  0.10  0.06
Hamel	   3 	  Somewhat limited   Seepage 	    0.72 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	  0.28  0.10
L107A: Canisteo	     50   	    Somewhat limited   Seepage   	      0.70 	    Very limited   Depth to   saturated zone   Piping	      1.00    0.29	  Somewhat limited   Slow refill   Cutbanks cave 	    0.30  0.10
Glencoe	   35       		    0.70     	  Very limited   Ponding   Depth to   saturated zone   Piping	  1.00  1.00    0.45	Cutbanks cave	  0.30  0.10 
Harps	   10       		    0.70   	  Very limited   Depth to   saturated zone   Piping	  1.00    0.24	  Somewhat limited   Slow refill   Cutbanks cave 	  0.28  0.10 
Canisteo, depressional	   3     	  Somewhat limited   Seepage     	    0.70     	  Very limited   Ponding   Depth to   saturated zone   Piping	  1.00  1.00    0.23	Cutbanks cave	  0.30  0.10 
Crippin	   2     	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	1.00	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10 
L108A: Cordova	   65     	  Somewhat limited   Seepage   	    0.70 	  Very limited   Depth to   saturated zone   Piping		  Somewhat limited   Slow refill   Cutbanks cave	0.30
Rolfe	30       	  Somewhat limited   Seepage     	    0.70     	  Very limited   Ponding   Depth to   saturated zone   Piping	1.00	Cutbanks cave	  0.28  0.10 

Table 13.--Water Management--Continued

	Pct. of map	į į		Embankments, dikes   levees 	, and	Aquifer-fed excavated ponds	
	unit   	Rating class and	,	Rating class and   limiting features			
L108A: Le Sueur	     5   	  Somewhat limited   Seepage   		  Very limited   Depth to   saturated zone   Piping	1.00	  Somewhat limited   Slow refill   Cutbanks cave	    0.28  0.10
L109A:	 	 		 	l i	 	-
Marna	   65   	  Somewhat limited   Seepage 	:	  Very limited   Depth to   saturated zone	1.00	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
Barbert	30       	Somewhat limited   Seepage    -  -	:	  Very limited   Ponding   Depth to   saturated zone   Hard to pack	1.00	İ	  0.30  0.10 
Guckeen	   5     	  Somewhat limited   Seepage   		  Very limited   Depth to   saturated zone   Piping	1.00	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
L110E: Lester	     50 	  Somewhat limited   Seepage   Slope	:	:		  Very limited   Deep to water 	    1.00
Ridgeton	   30   	  Somewhat limited   Seepage   Slope	:	:		  Very limited   Deep to water 	    1.00
Cokato	   10   	  Somewhat limited   Seepage   Slope	:	:		  Very limited   Deep to water 	    1.00
Belview	   6   	  Somewhat limited   Seepage   Slope	:	  Somewhat limited   Piping   		  Very limited   Deep to water   	  1.00 
Hamel	2     	Somewhat limited   Seepage 	,		1.00	Somewhat limited   Slow refill   Cutbanks cave	  0.28  0.10
Terril	   2     	  Somewhat limited   Seepage   	•	  Somewhat limited   Piping   Depth to   saturated zone	0.44	  Somewhat limited   Deep to water   Slow refill   Cutbanks cave	  0.60  0.28  0.10
L110F:	İ		i	i	i	į	i
Lester	55     	Seepage	1	Somewhat limited   Piping   		Very limited   Deep to water   	1.00
Ridgeton	30	Seepage	•	Piping		  Very limited   Deep to water 	  1.00 
Cokato	   8     	Seepage	    0.72  0.50	Piping		  Very limited   Deep to water   	    1.00 

Table 13.--Water Management--Continued

component name	Pct. Of map unit	 	eas	   Embankments, dikes   levees 	, and	   Aquifer-fed   excavated pond 	ls
	   	Rating class and limiting features	Value	Rating class and   limiting features	Value	Rating class and   limiting features	Value
L110F: Belview	     4   		      0.72  0.70		      0.32	    Very limited   Deep to water 	      1.00
Terril	   2     	  Somewhat limited   Seepage   	    0.72   	! - 3	    0.44  0.05	! -	  0.60  0.28  0.10
Hamel	   1     	  Somewhat limited   Seepage   	    0.72   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.01	  Somewhat limited   Slow refill   Cutbanks cave 	  0.28  0.10
L111A: Nicollet	     85   		      0.72   	saturated zone	      1.00    0.16	  Somewhat limited   Slow refill   Cutbanks cave	    0.28  0.10
Clarion	   10     	!	    0.70   	!	    0.79  0.05	! -	  0.60  0.30  0.10
Webster	   5   	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.11	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10
L112A: Webster	     85   	!	      0.70 	saturated zone	      1.00    0.11	Cutbanks cave	    0.30  0.10
Glencoe	   10       	  Somewhat limited   Seepage     	    0.70   	!	1.00	Cutbanks cave	  0.30  0.10 
Nicollet	   5     	  Somewhat limited   Seepage   		   Very limited   Depth to   saturated zone   Piping	1.00	Cutbanks cave	  0.28  0.10 
L113B: Reedslake	     75     	•	      0.72   		0.27	  Somewhat limited   Deep to water   Slow refill   Cutbanks cave	  0.60  0.30  0.10
Le Sueur	   10       		    0.72     	  Very limited   Depth to   saturated zone   Piping 	:	  Somewhat limited   Slow refill   Cutbanks cave   	  0.28  0.10 

Table 13.--Water Management--Continued

Map symbol and component name	Pct. of map		eas	   Embankments, dikes   levees 	, and	   Aquifer-fed   excavated pond 	s
	unit   		•	   Rating class and   limiting features		Rating class and   limiting features	Value
L113B: Reedslake, eroded	     10   	!	      0.72 		      0.27  0.05	  Somewhat limited   Deep to water   Slow refill   Cutbanks cave	      0.60  0.30  0.10
Cordova	   5     	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.02	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10 
L114A: Hanlon, rarely flooded	     85     	• -	      1.00   	  Somewhat limited   Depth to   saturated zone   Seepage	      0.87    0.08	    Very limited   Cutbanks cave   Deep to water 	      1.00  0.06
Coland, occasionally flooded		-	    1.00     	saturated zone Seepage	  1.00    0.09  0.03	  Somewhat limited   Cutbanks cave   	    0.10     
Minneopa, rarely flooded	     5     	  Very limited   Seepage   	      1.00   	saturated zone	      0.87    0.52	  Very limited   Cutbanks cave   Deep to water 	    1.00  0.06
L115A: Brownton	     55   	!	      0.70	  Very limited   Depth to   saturated zone	      1.00	  Somewhat limited   Slow refill   Cutbanks cave	    0.30  0.10
Lura	   35     	   Somewhat limited   Seepage   	    0.01   	  Very limited   Ponding   Depth to   saturated zone   Hard to pack	  1.00  1.00    0.81	Cutbanks cave	  0.99  0.10 
Marna	   10   	1	    0.70 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
L116A: Le Sueur	     45   		•	  Very limited   Depth to   saturated zone   Piping		  Somewhat limited   Slow refill   Cutbanks cave	    0.28  0.10
Lerdal	   40 	1	    0.70 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	    0.30  0.10
Mazaska	   10       	1	    0.70     	  Very limited   Depth to   saturated zone   Piping	    1.00    0.01	Cutbanks cave	  0.30  0.10 

Table 13.--Water Management--Continued

component name	Pct. of map	 	eas	Embankments, dikes	, and	Aquifer-fed excavated pond	ls
	unit   	'	•	   Rating class and   limiting features	•	   Rating class and   limiting features	Value
L116A: Kilkenny	     5   	    Somewhat limited   Seepage   	      0.70   	    Very limited   Depth to   saturated zone	      1.00 	  Somewhat limited   Slow refill   Deep to water   Cutbanks cave	    0.30  0.24  0.10
L117C2: Omsrud, eroded	     65 	!	      0.70	    Somewhat limited   Piping	      0.34	    Very limited   Deep to water	1
Omsrud	   15 	!	    0.70	  Somewhat limited   Piping	    0.35	  Very limited   Deep to water	    1.00
Terril	   10     	!	    0.72   	! - 3	    0.45  0.05		  0.60  0.28  0.10
Delft	   5   	  Somewhat limited   Seepage   	    0.70 	saturated zone	    1.00    0.41	Cutbanks cave	  0.30  0.10
Storden, eroded	   5 	!	    0.70	  Somewhat limited   Piping	    0.32	  Very limited   Deep to water	    1.00
L118A: Rushriver, frequently flooded	       85   	! -	        1.00	saturated zone	        1.00    0.08	  Very limited   Cutbanks cave 	        1.00
Houghton, frequently flooded	:	  Very limited   Seepage     	      1.00   	organic matter	      1.00    1.00	  Somewhat limited   Cutbanks cave   	    0.10   
Klossner, frequently flooded		  Very limited   Seepage     	      1.00     	organic matter Depth to saturated zone	      1.00    1.00    0.62	  Somewhat limited   Cutbanks cave     	    0.10     
Medo, frequently flooded	   5       	  Very limited   Seepage   	      1.00   	  Very limited   Depth to   saturated zone   Seepage	      1.00    0.95	  Very limited   Cutbanks cave   	      1.00   
L119B: Angus	     80       	  Somewhat limited   Seepage     	      0.72   	  Somewhat limited   Piping   Depth to   saturated zone	    0.24  0.05 		    0.60  0.30  0.10

Table 13.--Water Management--Continued

Map symbol and component name	Pct. of map		eas	Embankments, dikes   levees	, and	Aquifer-fed excavated pond	ls
	unit   		Value	   Rating class and   limiting features	•	   Rating class and   limiting features	Value
L119B: Angus, eroded	     10   	    Somewhat limited   Seepage   	      0.72 	  Somewhat limited   Piping   Depth to   saturated zone	      0.19  0.05	! -	    0.60  0.30  0.10
Cordova	   5   	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.02	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10
Le Sueur	   5     	  Somewhat limited   Seepage 	    0.72   	  Very limited   Depth to   saturated zone   Piping	  1.00    0.15	  Somewhat limited   Slow refill   Cutbanks cave	  0.28  0.10
L120A: Good Thunder	   80     	  Somewhat limited   Seepage   	      0.72   	  Somewhat limited   Depth to   saturated zone   Piping	      0.87    0.18	  Somewhat limited   Slow refill   Cutbanks cave   Deep to water	    0.28  0.10  0.06
Ocheyedan	   10     	  Somewhat limited   Seepage   	    0.70   	  Very limited   Piping   Depth to   saturated zone	    1.00  0.05	! -	  0.60  0.30  0.10
Minnetonka	   10   	  Somewhat limited   Seepage 	    0.57 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	  0.43  0.10
L121B: Clarion	   80   	!	      0.70 	  Somewhat limited   Piping   Depth to   saturated zone	    0.73  0.05	! -	    0.60  0.30  0.10
Guckeen	   15     	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.10	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10
Marna	   5   	  Somewhat limited   Seepage 	    0.70 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
L122B: Reedslake	   55     	  Somewhat limited   Seepage   	      0.72   	  Somewhat limited   Piping   Depth to   saturated zone	    0.27  0.05		    0.60  0.30  0.10
Estherville	   25 	  Very limited   Seepage	    1.00	  Somewhat limited   Seepage	    0.98	  Very limited   Deep to water	1.00
Le Sueur	   10       	  Somewhat limited   Seepage   	    0.72     	  Very limited   Depth to   saturated zone   Piping 	  1.00    0.15	Cutbanks cave	  0.28  0.10 

Table 13.--Water Management--Continued

Map symbol and component name	Pct. of map unit	 	eas	Embankments, dikes   levees 	, and	Aquifer-fed   excavated pond 	ls
	   	'	•	Rating class and limiting features		Rating class and limiting features	Value
L122B: Cordova	     5   	    Somewhat limited   Seepage   	      0.70   	saturated zone	      1.00    0.02	  Somewhat limited   Slow refill   Cutbanks cave 	    0.30  0.10
Lowlein	   5       	  Very limited   Seepage     	    1.00     	  Very limited   Piping   Depth to   saturated zone   Seepage	  1.00  0.87    0.09	   Very limited   Cutbanks cave   Deep to water 	  1.00  0.06   
L123A: Belleville	   85     		    1.00 	  Very limited   Depth to   saturated zone   Piping	    1.00    0.85	  Very limited   Cutbanks cave 	    1.00 
Granby	   15       		    1.00     	  Very limited   Ponding   Depth to   saturated zone   Seepage	  1.00  1.00    0.97	  Very limited   Cutbanks cave   	  1.00   
L124A: Glencoe mucky clay loam	     85       	    Somewhat limited   Seepage   	        0.70     	  -  Very limited   Ponding   Depth to   saturated zone   Piping	    1.00  1.00    0.43	    Somewhat limited   Slow refill   Cutbanks cave   	      0.30  0.10
Canisteo	   10     	  Somewhat limited   Seepage   	    0.70   	  Very limited   Depth to   saturated zone   Piping	    1.00    0.29	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
Glencoe clay loam	   5       	  Somewhat limited   Seepage     	    0.70     	!	  1.00  1.00   	!	  0.30  0.10 
L125A: Hanlon, rarely flooded	     60     		      1.00   	    Somewhat limited   Depth to   saturated zone   Seepage	      0.87    0.08	  -  Very limited   Cutbanks cave   Deep to water 	      1.00  0.06
Coland, occasionally flooded			    1.00     	  Very limited   Depth to   saturated zone   Seepage   Piping	  1.00    0.09  0.03	  Somewhat limited   Cutbanks cave     	0.10

Table 13.--Water Management--Continued

Map symbol and Pc component name o		 		   Embankments, dikes   levees 	Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	unit   	'	Value	   Rating class and   limiting features	Value	   Rating class and   limiting features	Value	
L125A: Minneopa, rarely flooded	       15   	      Very limited	          1.00	  Somewhat limited   Depth to   saturated zone   Seepage	        0.87    0.52	      Very limited	        1.00  0.06	
L126A: Coland, occasionally flooded		    Very limited   Seepage   	      1.00   	  Very limited   Depth to   saturated zone   Seepage   Piping	      1.00    0.09  0.03	    Somewhat limited   Cutbanks cave   	      0.10   	
Minneopa, occasionally flooded	       10   		        1.00 	  Somewhat limited   Depth to   saturated zone   Seepage	        0.87    0.52	 	        1.00  0.06	
Havelock, occasionally flooded	       5   	      Very limited   Seepage     	        1.00   	  -  Very limited   Depth to   saturated zone   Piping   Seepage	      1.00    0.12  0.01	    Somewhat limited   Cutbanks cave   	        0.10   	
Spillville, occasionally flooded	       5   	    Very limited   Seepage   	          1.00	    Very limited   Depth to   saturated zone   Piping	        1.00    0.66	      Somewhat limited   Cutbanks cave   	        0.10	
L127A: Coland, frequently flooded	     80     	! -	        1.00   	    Very limited   Depth to   saturated zone   Piping   Seepage	      1.00    0.25  0.09	      Somewhat limited   Cutbanks cave     	        0.10     	
Minneopa, occasionally flooded	     		        1.00   	  -  Somewhat limited   Seepage   Depth to   saturated zone	        0.99  0.87	  -  Very limited   Cutbanks cave   Deep to water 	      1.00  0.06	
Havelock, frequently flooded		  Very limited   Seepage     	    1.00       	  Very limited   Depth to   saturated zone   Piping   Seepage	  1.00    0.02  0.01	  Somewhat limited   Cutbanks cave     	    0.10     	

Table 13.--Water Management--Continued

component name	  Pct.   of  map  unit	 	servoir areas   Embankm   		, and	Aquifer-fed excavated ponds	
	unite   			   Rating class and   limiting features		   Rating class and   limiting features	Value
L127A: Spillville, occasionally flooded	         5   	      Very limited   Seepage   	          1.00	saturated zone	•	      Somewhat limited   Cutbanks cave   	          0.10
L128A: Mazaska	   60   	1		saturated zone	1.00	  Somewhat limited   Slow refill   Cutbanks cave 	  0.30  0.10
Rolfe	   30       	1	    0.70     	Ponding Depth to saturated zone	1.00	Cutbanks cave	  0.28  0.10 
Lerdal	   10   	1	    0.70 	  Very limited   Depth to   saturated zone	1.00	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
L129B: Terril	     90   	1	      0.72   	!	!	  Somewhat limited   Deep to water   Slow refill   Cutbanks cave	    0.60  0.28  0.10
Delft	   5     	  Somewhat limited   Seepage   	    0.70   	saturated zone	1.00	Cutbanks cave	  0.30  0.10
Hamel	   5   	  Somewhat limited   Seepage   	    0.72 	  Very limited   Depth to   saturated zone 	•	  Somewhat limited   Slow refill   Cutbanks cave 	  0.28  0.10
L130A: Okoboji mucky silty clay loam	:	    Somewhat limited   Seepage   	      0.04   	Depth to saturated zone	    1.00  1.00    0.66	•	    0.28  0.10 
Okoboji silty clay loam	   15       	  Somewhat limited   Seepage     	    0.05   	Depth to saturated zone	    1.00  1.00    0.72	•	  0.95  0.10
Brownton	   5   	  Somewhat limited   Seepage 	    0.70 	  Very limited   Depth to   saturated zone	    1.00 	  Somewhat limited   Slow refill   Cutbanks cave	  0.30  0.10
Spicer	   5     	  Somewhat limited   Seepage     	    0.70     	  Very limited   Depth to   saturated zone   Piping 	    1.00    0.50	  Somewhat limited   Slow refill   Cutbanks cave   	  0.30  0.10 

Table 13.--Water Management--Continued

Map symbol and	Pct.	Pond reservoir an	eas	Embankments, dikes	, and	<u>-</u>	_
component name	of	Į.		levees		excavated pond	is
	map	I				l	
	unit	I		<u> </u>		<u> </u>	
		Rating class and	Value	Rating class and	Value	Rating class and	Value
	İ	limiting features	İ	limiting features	İ	limiting features	İ
	ĺ	I	Ī		Ī	l	Ī
1-W:	i	i	i	İ	i	i	i
Water, miscellaneous	100	Not rated	i	Not rated	i	Not rated	i
-	i	i	i	İ	i	i	i
J3B:	i	i	i	İ	i	i	i
Udorthents (cut and	i	i	i	İ	i	i	i
fill land)	1100	Not rated	i	Not rated	i	Not rated	i
,		1	i	I	i	I	i
<b>√</b> :	i	i	i	! 	i	i I	i
Water	1100	Not rated	i	  Not rated	i	  Not rated	1
Macer	1-00	Noc Tacea	!	NOC Tated	!	NOC Taced	!

## **Soil Properties**

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, and the physical and chemical properties of the major horizons of each soil. Pertinent soil and water features also are given.

## **Engineering Index Properties**

Table 14 gives estimates of the engineering classification and of the range of index properties for the major horizons of each soil. Most soils have horizons of contrasting properties within the upper 5 or 6 feet.

*Depth* to the upper and lower boundaries of each horizon is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as 15 percent, an

appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, SP-SM.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3

inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and plasticity index (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

## **Physical and Chemical Properties**

Tables 15 and 16 show estimates of some characteristics and features that affect soil behavior. These estimates are given for the major horizons of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each horizon is indicated.

In table 15, *clay* as a soil separate, or component, consists of mineral soil particles that are less than 0.002 millimeter in diameter. The estimated clay content of each major soil horizon is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence linear extensibility, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earth-moving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3-bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In table 15, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and

roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K<sub>sat</sub>). The estimates in the table indicate the rate of water movement, in micrometers per second (um/sec), when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil horizon. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility percent is the linear expression of the volume difference of natural soil fabric at ½-bar or ½-0-bar water content and oven dryness. The volume change is reported as percent change for the whole soil. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils.

Linear extensibility of 3 percent or more can cause damage to buildings, roads, and other structures. Special design is often needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 15, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained or increased by returning crop residue to

the soil. Organic matter affects the available water capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

Erosion factors are shown in table 15 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

*Erosion factor Kw* indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor Kf* indicates the erodibility of the fineearth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

- 1. Coarse sands, sands, fine sands, and very fine sands.
- 2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
- 3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.
- 4L. Calcareous loams, silt loams, clay loams, and silty clay loams.
- 4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
- 5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.
- 6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
- 7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.

8. Soils that are not subject to wind erosion because of rock fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

In table 16, cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

## **Water Features**

Soil moisture status is an estimate of the fluctuating water content in a soil. It greatly influences vegetation type and plant growth; physical properties of soils, such as permeability, workability, strength, linear extensibility, and frost action; and chemical interactions and transport. Many other properties, qualities, and interpretations also are affected. Soil moisture status is important in the classification of soils, wetland, and habitat.

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Table 17 gives estimates of soil moisture for each component of a map unit at various depths for every month of the year. The depths displayed are representative values that are indicative of conditions that occur most of the time. Dry indicates a moisture condition under which most plants (especially crops) cannot extract water for growth. Moist indicates a moisture condition under which soil water is most readily available for plant growth. Wet indicates a condition under which water will stand in an unlined hole or at least a condition under which the soil is too wet for the growth of most agricultural species. A moisture status of 4.0-6.7 (wet) indicates that most of the time the component is saturated at some depth between 4.0 feet and 6.7 feet during the month designated. In some years the soil may be saturated at a depth of less than 4.0 feet or more than 6.7 feet; however, field observations indicate that the soil will be saturated between these depths in most years. In the summer, the soil may show the effects of drying plus intermittent rains that result in a moist or wet layer over a dry layer that gets moist or wet again.

In table 17, hydrologic soil groups are groups of soils that, when saturated, have the same runoff potential under similar storm and ground cover conditions. The soil properties that affect the runoff potential are those that influence the minimum rate of infiltration in a bare soil after prolonged wetting and when the soil is not frozen. These properties include the depth to a zone in which the soil moisture status is wet, the infiltration rate, permeability after prolonged wetting, and the depth to a very slowly permeable horizon or horizons. The influences of ground cover and slope are treated independently and are not taken into account in hydrologic soil groups.

In the definitions of the hydrologic soil groups, the infiltration rate is the rate at which water enters the soil at the surface and is controlled by surface conditions. The transmission rate is the rate at which water moves through the soil and is controlled by properties of the soil horizons.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist chiefly of very deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have a moderately fine to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when

thoroughly wet. These consist chiefly of soils having a horizon or horizons that impede the downward movement of water or soils that have a moderately fine or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clayey soils that have a high linear extensibility; soils that have a zone, high in the profile, in which the soil moisture status is wet on a permanent basis; soils that have a claypan or clay horizon or horizons at or near the surface; and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Flooding, the temporary covering of the soil surface by flowing water, is caused by overflow from streams or by runoff from adjacent slopes. Shallow water standing or flowing for short periods after rainfall or snowmelt is not considered flooding. Standing water in marshes and swamps or in closed depressions is considered to be ponding.

Table 18 gives estimates of the frequency and duration of flooding for every month of the year. Flooding frequency is the annual probability of a flood event expressed as a class. None indicates no reasonable possibility of flooding (the chance of flooding is nearly 0 percent in any year, or flooding is likely less than once in 500 years). Very rare indicates that flooding is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year, or flooding is likely less than once in 100 years but more than once in 500 years). Rare indicates that flooding is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year, or flooding is likely 1 to 5 times in 100 years). Occasional indicates that flooding occurs infrequently under usual weather conditions (the chance of flooding is 5 to 50 percent in any year, or flooding is likely 5 to 50 times in 100 years). Frequent indicates that flooding is likely to occur often under usual weather conditions (the chance of flooding is more than 50 percent in any year, or flooding is likely more than 50 times in 100 years; but the chance of flooding is less than 50 percent in all months in any year). Very frequent indicates that flooding is likely to occur very often under usual weather conditions (the chance of flooding is more than 50 percent in all months of any year).

Flooding duration is the average duration of

inundation per flood occurrence expressed as a class. *Extremely brief* is 0.1 hour to 4.0 hours; *very brief* is 4 to 48 hours; *brief* is 2 to 7 days; *long* is 7 to 30 days; and *very long* is more than 30 days. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information on flooding is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and level of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation.

Table 19 gives estimates of the frequency, duration, and depth of ponding for every month of the year. The depths displayed are representative values that are indicative of conditions that occur most of the time.

Ponding frequency is the number of times ponding occurs over a period of time. None indicates no reasonable possibility of ponding (the chance of ponding is nearly 0 percent in any year). Rare indicates that ponding is unlikely but possible under unusual weather conditions (the chance of ponding ranges from nearly 0 percent to 5 percent in any year, or ponding is likely 0 to 5 times in 100 years). Occasional indicates that ponding is expected infrequently under usual weather conditions (the chance of ponding ranges from 5 to 50 percent in any one year, or ponding is likely 5 to 50 times in 100 years). Frequent indicates that ponding is likely to occur under usual weather conditions (the chance of ponding is more than 50 percent in any year, or ponding is likely more than 50 times in 100 years).

Ponding duration is the average length of time of the ponding occurrence. It is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), *long* (7 to 30 days), and *very long* (more than 30 days).

## Soil Features

Table 20 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to a zone in which the soil moisture status is wet are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a saturated zone high in the profile during the winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Table 14.--Engineering Index Properties

## (Absence of an entry indicates that the data were not estimated)

Map symbol	Pct.	Depth	USDA texture	Classi 	fication	Fragi	ments		rcentage sieve n	_	ng	  Liquid	   Plas-
and	of map			ļ	ļ	>10	3-10	ļ				limit	
component name	unit	<u> </u>	<u> </u>	Unified	AASHTO		inches	4	10	40	200	<u> </u>	index
		In		 		Pct	Pct	 	 	 		Pct	
GP:		 		i I							¦	i	i
Pits, gravel.										ļ	!		
Udipsamments.		 	 	    -				 	 	 			
L5A:		 		 				 	l İ	l İ	 		 
Delft, overwash	50	0-12	Loam	CL	A-6, A-7	j 0	0	95-100	90-100	75-90	60-80	30-45	10-20
İ		12-37	Loam	CL	A-6, A-7	0	0	95-100	90-100	75-90	60-80	30-45	10-20
ļ		37-47	Clay loam, silt   loam	CL	A-6	0	0	95-100 	90-100	70-90 	50-75 	30-40	12-20
ľ		   47-80	Clay loam, loam	CL	  A-6	0-1	0-2	  95-100	  90-98	  75-90	  50-75	30-40	12-20
   Delft	40	   0-37	Loam	  CL	  A-6, A-7	   0	   0	   95_100	  90-100	   75-90	  60-80	130-45	  10-20
Delic	40		Clay loam, silt	1 -	A-6	0	0		90-100				12-20
ļ			loam							ļ	ļ	į	ļ
l I		50-60 	Clay loam, loam	CL	A-6 	0-1	0-2	95-100 	90-98 	75-90 	50-75 	30-40 	12-20 
Glencoe	5	0-10		ML, CL	A-6, A-7	0	0		•			40-50	•
		10-35   	Silty clay   loam, clay   loam, loam	OL, ML, CL   	A-6, A-7   	0   	0   	95-100   	90-100   	75-100   	60-90   	30-50   	10-20   
į		35-48 	•	  ML, CL 	A-6 	0	0	95-100 	90-100   	75-100 	  60-90 	30-40	5-20
į		48-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
  Terril	5	   0-27	Loam	  CL	  A-6	0	   0-2	  95-100	  95-100	  70-90	  60-80	  30-40	  10-20
İ		27-40	Loam, clay loam	CL	A-6	i o			90-100			30-40	5-20
İ			Clay loam, loam		A-6	i o			90-100			20-40	5-20
į		63-80	Clay loam, loam	CT	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L13A:   Klossner,		   	   	   				   	   	   	   		   
drained	80	0-26	Muck	PT	A-8	i o	0	i	i	i	i	i	i
     		26-36     	Mucky silt   loam, mucky   silty clay   loam, silt	MH     	A-7     	0     	0   	100     	95-100     	90-100     	85-95     	60-90     	10-30     
			loam	   GT				 					
		36-48   	Clay loam, loam, silty clay loam	CL 	A-6, A-7   	0   	0   	    32-T00	    an-100	    00-100	00-90   	35-65   	20-30   
   		48-80 	Clay loam,   loam, silty   clay loam	  CL 	A-6, A-7	0	0-5	  90-100   	  85-100   	  60-95   	  55-80   	  30-55   	  10-25   

Table 14.--Engineering Index Properties--Continued

   Map symbol	Pct.	   Depth	USDA texture	Classi	fication	Fragi	ments		rcentage sieve n	-	ng	  Liquid	   Dlag.
and	of map	l pebru	OSDA CEXCUIE	I	ı		3-10		sieve III	miner		limit	
	unit	 	l i	   Unified	I AASHTO		3-10  inches	   4	l 10	l 40	1 200	ITTILL	index
component name	unit	In		Unified	AASHTO	Pct	Pct	<del>4</del> 	<u>10</u> 	40 	<u>200</u> 	Pct	Index
L13A:		 		 			 	 	 	 	 		 
Mineral soil,		i	İ	i	i	i	i	i	i	i	i	i	i
drained	15	0-13	Loam	CL	A-6	i o	i o	95-100	90-100	75-100	60-90	30-35	10-15
i   		13-31   	Silty clay   loam, clay   loam, loam	CL	A-6, A-7   	0   		•				30-50   	
 		31-45     	Sandy loam,   clay loam,   silty clay   loam	SC, CL   	A-4, A-6   	0     	0     	90-100     	85-100     	60-95     	45-90     	30-40     	5-20     
i ! !		45-80	Sandy loam,   clay loam,   loam	SM, SC, CL	A-4, A-6	0-1   	0-2   	85-100     	  75-95   	  60-90   	40-90     	25-40   	3-20   
Houghton,							 	 	 	 	 		 
drained	5	0-10	Muck	PT	A-8	0	0						
I		10-80	Muck	PT	A-8	0	0						
L14A:			ļ	ļ							<u> </u>		
Houghton,		!	!	!		ļ.	!	ļ	!	!	!	!	ļ
drained	80		Muck	PT	A-8	0	0					!	
l		10-80 	Muck	PT	A-8 	0	0 		 		 		
Klossner,		İ		İ	i	i	i	i	İ	į		i	
drained	10	0-26	Muck	PT	A-8	0	0						
   		26-36     	Mucky silt   loam, mucky   silty clay   loam, silt   loam	MH     	A-7     	0	0       	100       	95-100       	90-100       	85-95       	60-90       	10-30     
 		   36-48   	Clay loam,   loam, silty   clay loam	  CT	  A-6, A-7 	0   	   0   	  95-100   	  90-100   	  80-100   	  60-90   	  35-65   	  20-30   
 		48-80	Clay loam,   loam, silty   clay loam	CL	A-6, A-7	i o   	0-5   	90-100   	85-100   	60-95   	55-80   	30-55   	10-25   

   Map symbol	Pct.	Depth	USDA texture	Classi 	fication	Fragi	nents	•	rcentago sieve n	e passi: umber	ng	  Liquid	   Plas
and	of map	i -	i		1	>10	3-10	İ				limit	•
component name	unit		<u> </u>	Unified	AASHTO	inches	inches	4	10	40	200	<u> </u>	index
		In	ļ		ļ	Pct	Pct			ļ	ļ	Pct	
L14A:		<u> </u>	 	 		l I	 	 	 	 	 	 	 
Mineral soil,		İ	İ	İ	İ	i	İ	İ	İ	İ	İ	İ	İ
drained	10	0-13	Loam	CL	A-6	j 0	0	95-100	90-100	75-100	60-90	30-35	10-15
İ		13-31 	Silty clay   loam, clay   loam, loam	CL	A-6, A-7	0   	0   	95-100   	90-100   	75-100   	60-90   	30-50   	10-20   
i I		31-45 	Sandy loam,   clay loam,   silty clay   loam	SC, CL	A-4, A-6   	0   	0   	90-100     	85-100     	60-95   	  45-90   	30-40   	5-20
		   45-80 	loam  Sandy loam,   clay loam,   loam	  SM, SC, CL   	  A-4, A-6 	0-1	   0-2   	  85-100   	  75-95   	  60-90   	  40-90   	  25-40   	   3-20   
L15A:			l I	 	-		 	 	 	 	 	 	 
Klossner, ponded	30	0-26	Muck	PT	A-8	j 0	0	i	j	j	i	j	i
		26-33	Silt loam,   silty clay   loam	мн 	A-7 	0   	0   0 	   100 	95-100   	  90-100 	85-95   	60-90 	  10-30 
İ		33-40	Clay loam,   loam, silty   clay loam	  CT	  A-6, A-7 	0	   0 	  95-100 	  90-100 	  80-100 	  60-90 	  35-65 	20-30
		   40-80 		  -  CT	  A-6, A-7 	0	   0-5 	  90-100   	  85-100   	  60-95   	  55-80   	  30-55   	  10-25   
Okoboji, ponded	30	   0-10 	  Mucky silty   clay loam	  мн 	  A-7 	   0 	   0 	   100 	   100 	  95-100 	  90-95 	  60-90 	  10-30 
i I		10-52	Silty clay   loam, silty   clay	  Сн 	A-7 	0   	0   	   100   	   100 	  90-100   	  80-95   	55-65   	30-40   
İ		52-60 	Silty clay   loam, silty   clay	  -    -	A-7   	0   	0   	95-100     	  95-100   	90-100     	80-95     	55-65     	30-40   
Glencoe, ponded	30	0-42	  Silty clay loam	CL	  A-6, A-7	0	   0	95-100	  90-100	  75-100	ı  60-90	  30-55	10-25
-		42-50	Loam, clay loam, silty clay loam	  -  CT	A-6, A-7	0   	0   	95-100   	90-100   	75-100   	  60-90   	30-50   	  10-25   
		50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Houghton, ponded	10	l l 0-80	  Muck	  PT	  A-8	   0	l I 0	 	l I	l I	l I	 	 

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classif:	ication	Fragi	ments		rcentag sieve n	e passi: umber	ng	  Liquid	   Plas-
and	of map					>10	3-10	i				limit	
component name	unit	i	i	Unified	l aashto		inches	4	l 10	l 40	1 200		index
		In	l			Pct	Pct	<u> </u>				Pct	
L16A:		 	[ [	 	 	 	 	 	 	 	 	 	 
Muskego, ponded	30	l 0-9	Muck	ı   PT	  A-8	0	0	i		i		! !	
				PT	A-8	i 0	1 0	i		i		i	
İ					A-5 	0   0	0	  95-100 	  95-100 	  85-100 	  75-96 	  40-50 	   2-8 
Blue Earth,		! 	] 	 	 	 	 	 	 	 	 	 	 
ponded	30	0-50	Silt loam	OL	A-5	0	j 0	95-100	95-100	85-95	80-95	41-50	2-8
 		50-60     	Silty clay   loam, clay   loam, silt   loam	       	A-5     	0     	0     	95-100     	80-100     	80-95     	80-95     	41-50     	2-8     
Houghton, ponded	30	   0-80 	  Muck 	I  PT 	  A-8 	   0 	0		 		 	 	 
Klossner, ponded	10	l I 0-26	Muck	l   PT	I  A-8	I I 0	l l 0	 	 	 	 	l I	 
	10			MH   	A-7 	0   0 	0   0 	   100   	  95-100   	  90-100   	  85-95   	  60-90   	  10-30   
i ! !		33-40   	Clay loam,   loam, silty   clay loam	  -  CT	A-6, A-7   	0 	0 	  95-100   	90-100   	80-100   	60-90   	  35-65   	  20-30   
 		40-80   	Clay loam, loam, silty clay loam	  -  CT	A-6, A-7   	0   	0-5   	90-100     	85-100     	60-95     	  55-80   	30-55   	10-25   
L26B:		 	 	 	 	 	 	l I	 	l I	 	l I	l I
Shorewood	90	   0-17	Silty clay loam	CL, ML	A-6, A-7	0	0	100	1 100	90-100	  85-100	  35-50	1
     					A-7   	0   0 	0   0 	100   		90-100   		•	
İ		39-60	Clay loam, loam	CT	A-6	0-1	0-2	95-100	90-98	75 <b>-</b> 90	50-75	30-40	12-20
Good Thunder	5	0-15	  Silty clay loam	CL, ML	  A-6, A-7-6	   0	   0	1 100	   100	  90-100	  85-100	  35-50	12-20
		•	Silty clay,   silty clay   loam	CH, MH   	A-7 	   0 	0   	100   	100   			45-75   	
i I		32-80   		CL, CL-ML, ML	  A-4, A-6, A-7   	   0 	0   	   100   	   100   	  95-100   	85-100   	25-50   	   5-20   

   Map symbol	Pct.	   Depth	USDA texture	 	Classi	fication	Frag	ments	•	rcentage sieve n	e passinumber	ng	  Liquid	   Plas-
and	of map	i -	į	i		I	>10	3-10	İ				limit	•
component name	unit	i	į	i	Unified	AASHTO	inches	inches	4	10	40	200	İ	index
		In	į.	İ		İ	Pct	Pct		<u> </u>			Pct	İ
L26B:		 	 	 				 	 	 	 	 		 
Minnetonka	5	0-13	Silty clay loam	MH,	CL	A-7	0	0	95-100	95-100	90-98	85-95	40-55	15-20
 		13-35   	Silty clay,   silty clay   loam	CH,   	CL	A-7   	0   	0   	95-100   	95-100   	90-98   	85-95   	40-65   	15-35   
   		35-60       	Silty clay   loam, silt   loam, clay   loam	CL,       	ML, MH	A-6, A-7     	0       	0       	95-100     	85-100       	75-100       	60-95     	30-55     	10-25       
L36A:		i	i	i		i	i	i	i i	İ	! 	l I	i	i
Hamel, overwash	50	0-13	Loam	CL,	ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
i		13-29	Loam, clay loam	ML,	CL	A-4, A-6	i o	j 0	•		85-100			5-20
İ		29-50   	Clay loam,   loam, silty   clay loam	CH,   	CL	A-7 	0   	0 	  95-100   	  95-100   	85-95   	  65-80 	40-55   	25-35   
į		50-80	Clay loam, loam	CL 		A-6	0-1 	0-2	95-100 	90-98 	75-90 	50-75 	30-40 	12-20
Hamel	43	0-24	Loam	CL,	ML	A-4, A-6	i 0	0	100	  95-100	  85-100	60-85	30-40	5-20
į Į		24-46   	Clay loam, loam, silty clay loam	CH , 	CL	A-6 	0 	0 	95-100   	95-100   	  85-95   	  65-80 	40-55 	25-35
		46-80	Clay loam, loam	CL		A-6	0-1	0-2	  95-100 	  90-98	  75-90	  50-75 	30-40	12-20
Terril	5	l 0-27	Loam	l CL		  A-6	0	0-2	I   95-100	I   95-100	I   70-90	I   60-80	30-40	110-20
i		27-40	Loam, clay loam	CL		A-6	i o		•		70-90		•	5-20
i		40-63	Clay loam, loam	CL,	CL-ML	A-6	iо	0-2	95-100	90-100	65-95	50-85	20-40	5-20
į		63-80	Clay loam, loam	CL		A-6	0-1	0-2	95-100	90-98 	75-90	50-75	30-40	12-20
Glencoe	2	   0-13	Loam	CL		  A-6	0	   0	  95-100	  90-100	  75-100	  60-90	  30-35	10-15
 		13-31   	Silty clay   loam, clay   loam, loam	  CT		A-6, A-7 	0	0   	95-100   	90-100   	75-100   	60-90   	30-50   	10-20
i I I		31-45   	Loam, clay   loam, silty   clay loam	     		A-6 	0   	i o I I	  95-100   	90-100   	75-100   	60-90   	30-40   	5-20   
 		45-80 	Clay loam, loam	  CL		A-6 	0-1 	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20 
L40B:														
Angus	45		1	CL		A-6	0	•	•	•	•	•	30-40	•
			Clay loam, loam			A-6	0-1		•				35-40	•
		•	Loam, clay loam			A-6	0-1   0-1		•				32-39	
!		40-80	Clay loam, loam	LCT		A-6	i 0-T	0-2	22-T00	120-28	1/2-90	50-75	30-40	1-2-20

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

ļ		[	!	Classi	fication	Fragi	ments	•	rcentag	_	ng	[	
Map symbol	Pct.	Depth	USDA texture	ļ		_		! :	sieve n	umber		Liquid	
and	of map	!			ļ	>10	3-10				1	limit	
component name	unit			Unified	AASHTO		inches	4	10	40	200		index
ļ		In				Pct	Pct					Pct	
L40B:		! 		 		l I	l I	! 	 	! 	 		! 
Kilkenny	40	0-11	Clay loam	ML, CL	A-6, A-7	j o	0	95-100	95-100	80-95	70-85	35-50	10-25
i		11-35	Clay loam,	CH, MH	A-7	j o	0	95-100	90-100	80-95	65-80	50-70	25-35
İ		i I	clay, silty clay loam	 	İ	İ	i I	i I	i I	i I	i I	į I	j I
į		35-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
  Lerdal	10	   0-8	  Clay loam	  CL	  A-6, A-7	   0	l l 0	  95-100	  90-100	  80-95	  60-90	  35-50	  10-22
			Clay loam	CL	A-6, A-7	io		•	•	•	•	35-50	
İ				CL, ML, CH,	A-7	0	0		•			45-70	
į		į	loam, clay	мн			İ	İ	ļ	İ			 
į		41-80	Clay loam, loam	CT	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
  Mazaska	5	   0-15	  Silty clay loam	CL, CH	  A-6, A-7	   0	l I o	  95-100	  95-100	  85-100	  70-95	  35-55	  12-28
İ		•	Clay, silty	CH, CL	A-7	0	0					40-65	
			clay loam										
		42-80 	Loam, clay loam	I CT	A-6 	0-1 	0-2 	 	90-98 	75-90 	50-75 	30-40 	12-20 
L41C2:		į	į	į	į	į	į	į	į	į	į	į	į
Lester, eroded	45	0-7	'	CL-ML, CL	A-4, A-6	0			90-100				5-15
		•	Clay loam, loam	•	A-6	0-1		•	90-100	•	•	•	15-20
		•	Clay loam, loam	•	A-6	0-1						30-40	
l I		60-80 	Clay loam, loam	I CT	A-6 	0-1	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20 
Kilkenny, eroded	40	0-9	Clay loam	ML, CL	A-6, A-7	0	, 0	95-100	95-100	80-95	70-85	35-50	10-25
I		9-53 	Clay loam,   clay, silty	CH, MH	A-7	0 	0 	95-100 	90-100 	80-95 	65-80 	50-70 	25-35 
İ		i	clay loam	i	i	i	i	i	i	i	i	i	i
į		53-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
  Terril	10	   0-27	Loam	CL	  A-6	   0	   0-2	  95-100	  95-100	  70-90	  60-80	  30-40	  10-20
j		27-40	Loam, clay loam	CL	A-6	j 0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		40-63	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
I		63-80 	Clay loam, loam	CL	A-6	0-1	0-2	95-100 	90-98 	75-90 	50 <b>-</b> 75	30-40	12-20 
Derrynane	5	0-19	Clay loam	CH, CL	  A-7	0	0	100	95-100	  80-90	  75-90	  46-56	  25-33
 		19-39   	Silty clay,   silty clay   loam, silty   clay loam,	CH, CL	A-6, A-7   	0   	0   	100   	95-100     	85-95     	70-90   	40-65   	20-35   
		!   	clay loam,	   			   	!   	!   	!   	!   		!   
I I		39-65		l CL	I   A-7	l l 0	I I 0	  95-100	  95-100	  85-95	70-90	  43-50	   22-28
ļ			Clay loam, loam	1 -	A-6	0-1						30-40	
i				- <del>-</del>		-	i						<b>-</b> -

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classi	fication	Fragi	ments	•	rcentage sieve n	_	_	  Liquid	   Dlag
and	of map	l pebru	USDA CEXCUTE	l	1	   >10	J 3-10	! '	sieve III	mmer		Liquid  limit	•
	or map unit		l i	   Unified	1 33.011110	1	3-10  inches	   4	l 10	l 40	1 200	liimic	
component name	unit	l In	<u> </u>	Unified	AASHTO	Inches	Inches   Pct	4 	10 	40 	200 	Pct	index 
į		i	İ	İ	i			i	į	<u> </u>	i		i
L41D2:			!	!					ļ				!
Lester, eroded	45		1	CL-ML, CL	A-4, A-6	0			90-100	•			5-15
ļ		•	Clay loam, loam	•	A-6	0-1	•	•	90-100	•		•	15-20
ļ			Clay loam, loam		A-6	0-1	•		90-98	•	,		12-20
I		60-80 	Clay loam, loam	CL	A-6 	0-1	0-2 	95 <b>-</b> 100	90-98 	75-90 	50-75 	30-40 	12-20 
Kilkenny, eroded	35	0-9	Clay loam	ML, CL	A-6, A-7	0	0	95-100	  95-100	80-95	70-85	35-50	10-25
		9-53	Clay loam,   clay, silty   clay loam	CH, MH 	A-7 	0 	0 	95-100 	90-100 	80-95   	65-80 	50-70 	25-35 
		53-80	Clay loam, loam	CT	A-6	0-1	0-2	95-100	90-98	  75-90	50-75	30-40	12-20
   Terril	10	   0-27	Loam	  CL	  A-6	l I 0	   0-2	  95-100	  95-100	  70-90	  60-80	  30-40	  10-20
i			Loam, clay loam		A-6	i o			90-100	•			5-20
i		•	Clay loam, loam	•	A-6	i o			90-100	•			5-20
į		•	Clay loam, loam		A-6	0-1				•		30-40	12-20
Derrynane	5	   0-19	  Clay loam	CH, CL	  A-7	   0	   0	   100	  95-100	  80-90	  75-90	  46-56	  25-33
]	-	•		CH, CL	A-6, A-7	1 0	l 0			•		40-65	
į		   	silty clay	   			   	   	   	   			
į		i	clay loam,	İ	i	i	İ	i	į	i	i	i	i
į		i	clay loam,	İ	i	i	i	i	i	i	i	i	i
į		i	silty clay	İ	i	i	i	i	i	i	i	i	i
į		39-65	Clay loam	CL	A-7	j o	0	95-100	95-100	85-95	70-90	43-50	22-28
į		65-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
  Ridgeton	5	   0-23	Loam	  CL	  A-6	l I 0	   0-2	  95-100	  95-100	  70-90	  60-80	  30-40	  10-20
i		23-38	Loam, clay loam	CL, CL-ML	A-6, A-7	i o	•		90-100	•	,		5-20
i			Clay loam, loam		A-7, A-6	i o			90-100	•			5-20
İ		•	Clay loam, loam		A-6	0-1			90-98	•			12-20
L41E:				 		ļ	l I			 			 
Lester	45	l 0-5	Loam	CL-ML, CL	A-4, A-6	0	l l 0-2	  95-100	90-100	I   80-95	1  50-85	125-40	   5-15
I CDCCI	15		Clay loam, loam		A-6	0-1			90-100	•	,		15-20
i		•	Clay loam, loam	•	A-6	0-1			90-98	•			12-20
			Clay loam, loam		A-6	0-1				•		30-40	
   Kilkenny	40	   0-7	  Clay loam	  ML, CL	  A-6, A-7	   0	   0	  95-100	  95-100	  80-95	   70-85	  35-50	  10-25
				CH, MH	A-7	1 0	l 0					50-70	
		, 31	clay, silty clay loam				°   		   				
¦		31-80	Clay loam, loam	l CL	I  A-6	0-1	l l 0-2	95-100	  90-98	   75-90	  50-75	30-40	12-20
· ·		1 32 30		i	1 0	" +		122 200	1 20 20	1.5.50	1 70 ,5	1 20 10	

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classif	Eication	Fragi	ments	•	rcentage sieve n	_	ng	  Liquid	
and	of map	pebcu	ODDA CEXCUIE	l	1		3-10	;	PTEAE III	mmer			Plas-  ticity
component name	unit	 	 	   Unified	AASHTO		3-10  inches	   4	l 10	l 40	1 200		index
	41110	In	!			Pct	Pct	<u> </u>				Pct	
L41E:		 		 		 	 	 	 	 	 	 	 
Terril	5	0-24		CL	A-6	0						30-40	•
			Loam, clay loam		A-6	0			90-100				5-20
ļ		•	Clay loam, loam		A-6	0			90-100				5-20
		57-80 	Clay loam, loam	CL	A-6 	0-1	0-2 	95 <b>-</b> 100 	90-98 	75-90 	50 <b>-</b> 75 	30-40 	12-20 
Derrynane	5		Clay loam	CH, CL	A-7	0	0					46-56	
		20-40	Silty clay,   silty clay	CH, CL 	A-7, A-6 	0 	0 	100 	95-100 	85-95   	70-90 	40-65 	20-35
ļ			loam, silty   clay loam,	 			 	 	 	 	 		 
		 	clay loam,	 	 	l I	İ	 	 	 	 	 	 
į		40-54		CL	A-7	j 0	0	95-100	95-100	85-95	70-90	43-50	22-28
į		54-80	Clay loam, loam	CL	A-6	0-1	0-2	  95-100 	90-98	75-90	50-75 	30-40	12-20
Ridgeton	5	0-32	•	CL	  A-6	0			95-100				10-20
		•	Clay loam, loam	•	A-7, A-6	0			90-100				5-20
		40-80 	Clay loam, loam	  CT	A-7, A-6 	0-1 	0-2 	95-100 	90-98 	75-90 	50-75 	30-45 	12-20 
L48A:		į	į	İ	į	į	İ	į	į	į	į	į	į
Derrynane,	50	   0_16	  Clay loam	CH, CL	  A-6	I I 0	l l 0	   100	   05_100	   00_00	   75_90	  40-55	25-33
	30	•		CH, CL	A-6, A-7	0   0	0   0 					40-65 	
į		j I	loam, clay	j 	j I	j I	i I	j I	j I	j I	j I	i i	j I
İ		48-67	Clay loam	CL	A-6	0	0	95-100	95-100	85-95	70-90	30-50	22-28
ļ		67-80 	Clay loam, loam	CL	A-6 	0-1	0-2 	95-100 	90-98 	75-90 	50-75 	30-40	12-20 
Derrynane	40	0-19	Clay loam	CH, CL	  A-7	0	0					46-56	
 		19-39     	Silty clay,   silty clay   loam, clay   loam	CH, CL   	A-7, A-6   	0   	0   	100     	95-100     	85-95     	70-90     	40-65   	20-35     
i		39-65	1	CL	  A-7	i 0	0	95-100	  95-100	  85-95	70-90	43-50	22-28
į			Clay loam, loam		A-6	0-1		•				30-40	•
Glencoe	5	0-10	  Clay loam	  CL, ML	  A-7, A-6	0	   0	  95-100	  90-100	  75–100	  60-90	  40-50	  15-20
   		10-35   	Silty clay   loam, clay   loam, loam	CL, OL, ML   	A-6, A-7   	0   	0   	95-100   	90-100   	75-100   	60-90   	30-50 	10-20   
 		35-48	Loam, clay	CL, ML	  A-6 	0	   0 	  95-100 	  90-100 	75-100	  60-90 	30-40	   5-20 
l I		   48-60	clay loam  Clay loam, loam	CL	  A-6	0-1	   0-2	  95-100	I  90-98	  75-90	  50-75	  30-40	  12-20
į		İ	İ	İ	İ	İ	ĺ	İ	İ	İ	İ	İ	İ

0-1 | 0-2 | 85-100 | 75-95 | 60-90 | 40-90 | 25-40 | 3-20

Map symbol	Pct.	   Depth	   USDA texture	Classif	Eication	Fragi	ments		rcentag sieve n	_	_	  Liquid	   Plas-
and	of map					>10	3-10					limit	ticity
component name	unit			Unified	AASHTO	inches	inches	4	10	40	200		index
ļ		In			[	Pct	Pct			ļ		Pct	
L48A:		 	 	 			 		 	 	 		 
Terril	5	0-27	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
İ		40-63	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
į		63-80	Clay loam, loam	CT	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L49A:		 		 			 		 	 			
Klossner,		İ	İ	ĺ	İ	İ	ĺ	İ	ĺ	ĺ	İ	İ	İ
surface drained	65	0-26	Muck	PT	A-8	0	0						
		26-33	Silt loam,	MH	A-7	0	0	100	95-100	90-100	85-95	60-90	10-30
I			silty clay										
I			loam										
I		33-40	Clay loam,	CL	A-6, A-7	0	0	95-100	90-100	80-100	60-90	35-65	20-30
			loam, silty										
			clay loam										
I		40-80	Clay loam,	CL	A-6, A-7	0	0-5	90-100	85-100	60-95	55-80	30-55	10-25
			loam, silty										
ļ			clay loam			ļ							
Klossner,		 		! 			 		 	 	 		 
drained	20	0-26	Muck	PT	A-8	0	0						
I		26-36	Mucky silt	MH	A-7	0	0	100	95-100	90-100	85-95	60-90	10-30
I			loam, mucky										
I			silty clay										
I			loam, silt										
			loam										
I		36-48	Clay loam,	CL	A-6, A-7	0	0	95-100	90-100	80-100	60-90	35-65	20-30
I			loam, silty										
I			clay loam										
I		48-80	Clay loam,	CL	A-6, A-7	0	0-5	90-100	85-100	60-95	55-80	30-55	10-25

Table 14.--Engineering Index Properties--Continued

loam, silty clay loam Mineral soil, drained-----|95-100|90-100|75-100|60-90 |30-35 |10-15 15 0-13 Loam CL A-6 0 13-31 |Silty clay |95-100|90-100|75-100|60-90 |30-50 |10-20 CL A-6, A-7 0 0 loam, clay loam, loam 31-45 | Sandy loam, SC, CL A-4, A-6 0 0 |90-100|85-100|60-95 |45-90 |30-40 | 5-20

clay loam, silty clay

clay loam, loam

SM, SC, CL

A-4, A-6

loam

45-80 | Sandy loam,

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	Depth	USDA texture	Classi	fication	Fragi	nents	•	rcentage sieve n		ng	  Liquid	   Plas-
and	of map	İ	j	į		>10	3-10	İ				limit	ticity
component name	unit			Unified	AASHTO	inches	inches	4	10	40	200	L	index
!		In	1			Pct	Pct					Pct	
L50A:		 		 			 	 	 	 	 		 
Houghton,						- 1							
surface drained	40	0-80 I	Muck	PT	A-8	0	0 	 					
Muskego, surface					i	i	 	 	 		 		<u> </u>
drained	40		Muck	PT	A-8	0	0						
			Muck	PT	A-8	0	0						
		36-60 	Coprogenous   earth	    OT	A-5 	0 	0 	95-100 	95-100 	85-100 	75-96 	40-50 	2-8
Klossner,				 	l I	l I	 	 	 	 	 		 
drained	10	0-26	Muck	PT	A-8	j 0	0	i					
		26-36   	Mucky silt   loam, mucky   silty clay   loam, silt   loam	MH     	A-7     	0     	0     	100     	95-100       	90-100     	85-95       	60-90     	10-30     
		   36-48 	Clay loam,   loam, silty   clay loam	CL 	  A-6, A-7 	0	   0 	  95-100   	  90-100   	  80-100   	  60-90   	  35-65   	  20-30   
 		48-80	Clay loam,   loam, silty   clay loam	cr   	A-6, A-7 	0	0-5   	  90-100   	  85-100   	  60-95   	  55-80   	30-55	  10-25   
Mineral soil,				 			l İ	l İ	 	l I	 	i	 
drained	10	0-13	Loam	CL	A-6	j o	0	95-100	90-100	75-100	60-90	30-35	10-15
i I		13-31 	Silty clay   loam, clay   loam, loam	CL   	A-6, A-7 	0						30-50   	
     		31-45   	Sandy loam,   clay loam,   silty clay   loam	SC, CL     	A-4, A-6   	0	0     	90-100     	85-100     	  60-95     	45-90     	30-40	5-20     
 		45-80   	Sandy loam,   clay loam,   loam	SM, SC, CL	A-4, A-6   	0-1	0-2   	85-100     	75-95     	60-90     	40-90     	25-40	3-20   
L51C2:	0.0			 									
Gladek, eroded    	80		Silt loam  Silty clay   loam, silt	CL  CL	A-6, A-4  A-6, A-7 	0   0 	0   0 		95-100  95-100 			25-40  30-45 	8-20  15-25 
i   		   39-80 	loam  Very fine sandy   loam, silt	  CL, CL-ML 	  A-4, A-6 	   0 	   0 	  95-100 	  95-100 	  90-100 	  80-90 	  24-40 	     4-20 

Map symbol	Pct.	   Depth	USDA texture	Classi	fication	Fragi		•	rcentago sieve n	_	ng	  Liquid	•
and	of map					>10	3-10					limit	
component name	unit			Unified	AASHTO	inches	inches	4	10	40	200		index
į.		In	!		ļ	Pct	Pct	ļ	ļ.	ļ .	ļ.	Pct	ļ
L51C2:		 	 			l I	l I	 	 	 	 	 	l I
Barrington	10	0-15	Silt loam	CL	A-4, A-6	i o	0	100	95-100	90-100	80-95	30-40	8-18
				CL	A-6, A-7	0	0	1 100			80-95		11-2
i				SC-SM, SC,	A-4, A-6	0	0				36-90	•	5-1
			loamy very   fine sand to   silt loam	CL, CL-ML					     	     			
Lester, eroded	5	l   0-7	Loam	CL-ML, CL	  A-4, A-6	l l 0	l l 0-2	   95-100	  90=100	  80-95	  50-85	  25-40	   5-15
Legcer, eroded	3		Clay loam, loam	-	A-6	0-1					55-75		
· ·			Clay loam, loam		A-6	0-1					50-75		
· ·			Clay loam, loam		A-6	0-1					50-75		
ŀ		00-00 	Clay Ioam, Ioam		A-0	0-1	U-Z	55-±00 	50-50 	75-50 	30-73 	30-40	12-20
Madelia	5	0-19	Silty clay loam	CL	A-6	0	0	100	100	100	90-100	40-50	10-25
į		19-37	Silty clay	CL	A-6, A-7	0	0	100	100	100	90-100	30-50	10-25
}		 	loam, silt   loam			 	 	 	 	 	 	 	 
į		37-60	Silt loam,	CL, ML	A-4, A-6, A-7	j 0	0	100	100	100	90-100	30-50	5-25
i		İ	silty clay		i	i i	i	į	i	į	i	İ	i
į		İ	loam		İ	į	İ	İ	İ	İ	İ	İ	İ
L56A:		 	 			 		 	 	 	 	 	 
Muskego,		İ	i		i	i	i	i	i	i	i	i	i
frequently		i	i		i	i	i	i	i	i	i	i	i
flooded	45	0-9	Muck	PT	A-8	0	0		i		i	i	i
i		9-36		PT	A-8	i o	0		i		i	i	i
i				OL	A-5	0	0	  95-100	  95-100	  85-100	75-96	40-50	2-8
į		į	earth		į	į		į	į	į	į	į	į
Klossner,		 	 		1	 	 	 	 	 	 		 
frequently													
flooded	45	0-26	Muck	PT	A-8	0	0	i					
į		26-33	Silt loam,	мн	A-7	0	0	100	95-100	90-100	85-95	60-90	10-30
į		ĺ	silty clay		İ	İ		ĺ	İ	ĺ	İ	İ	İ
į		ĺ	loam		İ	İ		ĺ	İ	ĺ	İ	İ	İ
į		33-40	Clay loam,	CL	A-6, A-7	0	0	95-100	90-100	80-100	60-90	35-65	20-30
			loam, silty										
į			clay loam		1	1		l	I				
j		40-80	Clay loam,	CL	A-6, A-7	0	0-5	90-100	85-100	60-95	55-80	30-55	10-25
ĺ			loam, silty						I				
į		I	clay loam		1			I	I	I	1	1	I

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

   Map symbol	Pct.	   Depth	USDA texture	Classif	ication	Fragi	ments		rcentag sieve n	_	ng	  Liquid	   Plas
and	of map	ĺ	İ	İ	l	>10	3-10	İ				limit	
component name	unit			Unified	AASHTO		inches	4	10	40	200		index
I		In				Pct	Pct					Pct	
L56A:		l İ		 	! 	İ	 	 	 	 	i İ	i i	 
Suckercreek,		İ	İ	İ	İ	i	İ	İ	İ	İ	İ	İ	İ
frequently		İ	İ	İ	İ	i	İ	İ	İ	İ	İ	İ	İ
flooded	10	0-22	Loam	CL-ML, CL	A-4	0	0	100	100	85-95	50-85	15-30	5-10
I		22-80	Loam, sandy	SC, SM	A-2, A-4	0	0	95-100	85-100	65-90	20-70	0-30	NP-10
I			loam, loamy			1							
!		ļ	fine sand	!	!	ļ	ļ	ļ	ļ	!	İ	ļ	ļ
L57A:		l I	l I	 	l I		 	l I	 	 	 		 
Medo, drained	80	l   0-27	Muck	I PT	  A-8	i		i	i	i	i	¦	 
			1	CL, ML	A-6, A-7	i 0	0	85-100	75-100	  55-95	45-85	35-50	7-22
į		İ	loam, mucky	İ	İ	i	i	i	i	i	i	i	i
j		İ	loam, mucky	İ	İ	j	İ	İ	İ	İ	İ	İ	İ
I			silt loam										
I		35-39	Sandy clay loam	SC, CL	A-6, A-7	0	0	85-100	75-100	55-95	45-85	30-65	8-16
I		39-80	Sand, gravelly	SP, SP-SM, SM	A-1, A-2,	0-2	0-5	75-95	60-95	20-75	2-40	0-20	NP-4
			coarse sand,		A-3, A-4								
ļ			gravelly loamy				!						
		!	coarse sand,	!	!	ļ	!	!	ļ	!	ļ	!	!
ļ		 	fine sand										
Mineral soil,		 		 	 		 	 	 	 	 		 
drained	15	0-23	Fine sandy loam	SM	A-4	0	i o	100	95-100	70-85	40-50	0-30	NP-4
į		23-31	Stratified	SM	A-2, A-4	0	j o	100	95-100	55-80	25-50	0-30	NP-4
j		j	loamy fine	İ	İ	j	İ	į	į	į	į	į	j
I			sand to fine		l								
I			sandy loam										
		31-60	Stratified	SM, SP-SM, SP	A-2	0	0	100	80-100	45-90	4-55	0-15	NP
			loamy sand to	!	!	ļ	!	!		!	!	!	
ļ		 	coarse sand										
Houghton,		 		 	 		 	 	 	 	 		 
drained	5	0-10	Muck	PT	  A-8	0	i o	i	i	i	i	i	i
j		10-80	Muck	PT	A-8	j 0	j 0	j	j	j	j	j	j
		ļ		!	!	ļ	ļ	ļ	ļ	!	İ	ļ	!
L63A:   Klossner	85	   0-25	Muck	  pT	  A-8	l l o	   0			 	 		 
vrossuer	03		Clay loam,	CL	A-6, A-7	1 0	0   0	195-100	  90-100	  80-100	160-90	  35-65	  20-30
l I		23-40	loam, silty					122-100		50-100 	00-50 	133-03	20-50 
i		i	clay loam	i İ	i İ	i	i	i	i	i	i	ŀ	i
i		40-80	Clay loam,	CL, CH	  A-6, A-7	0	   0	95-100	90-100	80-100	60-90	35-65	20-30
i		į	silty clay		i .,	i	i	i	i	i	i	i	i
i		į	loam	i	i	i	i	i	i	i	i	i	İ
į		İ	İ	İ	İ	j	į	į	į	į	į	į	İ

   Map symbol	Pct.	   Depth	USDA texture	Classif:	ication	Fragi	ments		rcentag sieve n			  Liquid	   Plas-
and	of map	İ	İ	İ	I	>10	3-10					limit	ticity
component name	unit	Ĺ	İ	Unified	AASHTO	inches	inches	4	10	40	200	<u> </u>	index
		In				Pct	Pct					Pct	
L63A:		 	 	 	 	 	 	 	 	 	 	 	 
Lura	10	0-10	Silty clay	CH	A-7	0	0	100	100	95-100	90-100	50-75	25-45
		10-58 	Silty clay,   clay	CH	A-7 	0 	0 	100 	100 	95-100 	90-100 	50-75 	25-45 
İ		   58-72   		  CH, CL   	  A-7 	   	   0 	100 	   100   	  95-100   	  90-100   	  40-75   	  15-45   
Brownton	5	   0-22	  Silty clay loam	CH, MH	  A-7	   0	   0	   100	  95-100	  90-100	  85-95	  50-65	  20-35
		•	Silty clay,   clay, silty   clay loam	•	  A-7 	0	0				85-95 		
 		   38-60	Clay loam  Clay loam, loam	CL	  A-6 	   0-1 	   0-2 	  95-100 	  90-98 	  75-90 	  50-75 	  30-40 	  12-20
L64A:		 		! 	! 	 		<u> </u> 	 	! 		! 	! 
Tadkee    	50		Loamy fine sand  Sand, fine   sand, loamy		A-2  A-1, A-2, A-3 	0   0 	0   0 		95-100  75-100 		4-35   4-35 		NP-4   NP 
		     34-80	sand  Clay loam, loam	  CL	    A-6	   0-1	0-2	  95-100	  90-98	  75-90	    50-75	    30-40	    12-20
Tadkee,		 	İ	! 	! 	 			<u> </u>	¦	¦	i	i
depressional	36	0-6 	Mucky loamy   fine sand	SP-SM, SM	A-2 	0	0 	100	95-100 	50-80 	4-35 	0-14	NP-4
į Į		6-27   	Sand, fine   sand, loamy   sand	SW, SP, SP-SM   	  A-1, A-2, A-3 	0   	0   	100	75-100   	45-80   	4-35   	0-14   	NP   
į		27-80	Clay loam, loam	CT	  A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Better drained		 		! 	! 	 			<u> </u>			i	
soil	8	0-6	Loamy sand	SM	A-2	0	0-1	98-100	95-100	70-90	15-35	5-15	NP-2
		6-25   	Sand, fine   sand, loamy   sand	SP-SM, SP   	A-2   	0   	0-1   	98-100   	95-100   	65-90   	4-25   	5-15   	NP-2   
		25-80	Clay loam, loam	CT	  A-6	0-1	0-2	  95-100 	90-98	  75-90	50-75	  30-40	12-20
   Granby	4	   0-12	  Loamy fine sand	i  sm	  A-2	   0	   0	   100	   100	  50-80	  15-35	   0-14	   NP
 		12-24   	Sand, loamy   fine sand,   loamy sand	SM, SP-SM	A-3, A-1, A-2	0   	0   	100 	95-100   	45-80   	5-35   	0-14   	NP   
		24-60   	Coarse sand,   fine sand,   loamy fine	  SP-SM, SM   	  A-1, A-2, A-3   	   0 	   0 	100   	  95-100   	45-80 	5-35 	   0-14   	NP 
			sand	 	 	 	 	 	 	 		 	

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

   Map symbol	Pct.	   Depth	   USDA texture	Classif	ication	Fragi	ments		rcentag sieve n	e passi: umber	ng	  Liquid	   Plas-
and	of map	İ	Ì	İ	I	>10	3-10	İ				limit	ticity
component name	unit	İ	İ	Unified	AASHTO	inches	inches	4	10	40	200	İ	index
Ī		In	Ī	I		Pct	Pct	İ	Ī	İ	Ì	Pct	i
L64A:													
	2	0-4	Loamy fine sand	law an aw	  A-2	   0	I I 0	   100	   05 100	 	4 25	   0-14	larn 4
Less sandy soil	2		Clay loam, loam		A-2  A-6	0-1	•		95-100	•	4-35	30-40	•
-					A-6	0-1						30-40	
		20-80 	Clay loam, loam	I CT	A-6	U-I	U-Z 	  32-T00	90-98 	/5-90 	50 <b>-</b> 75	30-40 	12-20 
L73A:				İ	İ	i	i	i	i	i	i	i	! 
Blue Earth	80	0-10	Mucky silty	OL, ML	A-5	0	j 0	95-100	95-100	85-95	80-95	41-50	2-8
I			clay loam										
		10-68	Mucky silty	ML, OL	A-5	0	0	95-100	80-100	80-95	80-95	41-50	2-8
			clay loam,	[	[								
			clay loam,	[	[								
			mucky silt	[	[								
			loam	[	[								
!		68-80	Clay loam, loam	CT	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
  Belleville	10	   0=11	  Sandy loam	SC-SM, SM	  A-4	   0	l I o	   100	   95_100	  60-90	  35-50	   0-25	   ND_5
Delleville	10		Loamy sand,	SC-SM, SM,	A-1-b, A-2,	I 0	I 0		80-100		5-45	0-25	
		11-27	fine sand,	SP-SM	A-3, A-4	1	1	1 20-100	100-100	1 40-02	1 2-43	U-23	I I
			sand	SF-SM 	A-3, A-1 	 	i i		 			 	l I
		1 27-48	Loam, clay	CL	  A-6	0-1	l   0-2	   95-100	   90-98	I 180-95	  55-90	30-40	I   10-20
		1 27-40	loam, silty	I	A-0	1 0-1	U-Z	1		00-55 	1	30-40 	10-20 
			clay loam	! !	I I	 	i i		 			 	l I
¦		I 48-80	Clay loam, loam	I I Ст.	  A-6	0-1	l 0-2	   95-100	   90-98	  75-90	  50-75	30-40	I   12-20
i		10 00				0 -	0 2						
Canisteo	10	0-18	Clay loam	OL, CL	A-6	j 0	j 0	95-100	95-100	85-100	60-100	40-50	15-20
		18-39	Clay loam, loam	CL, ML	A-6	0	0-5	90-100	80-95	60-95	50-85	30-40	5-15
!		39-80	Clay loam, loam	CT	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L74A:													  -
Estherville	87	I I 0-13	Sandy loam	SM, SC-SM, SC	  a_2 a_4	l l 0	l l 0-5	   90_100	I   80_100	  50-75	125-50	120-30	   2-10
ESCHEL VIIIE	67		Sandy loam,		A-1, A-2, A-4	1 -	•			40-75		'	2-10   2-8
		1 13-10	loam, coarse	ac-am, am, ac	A-1, A-2, A-4 	1	1 0-2	102-100	100-33	<del>1</del> 0-75	1 1 2 - 4 2	20-30 	2-0 
			sandy loam	! !	I I	 	i i		 			 	l I
		   18_23	Coarse sand,	SP-SM, SP, SM	   a = 2	l I 0	I I 0-10	  55-90	  50-85	1   1 0 <b>-</b> 4 0	2-25	0-14	l NP
		1 10-23	gravelly	DI - DM, DI, DM	A-2	"	1 0-10	1	50-05 	1	1 2-23	1 0-11	M2
		ŀ	coarse sand,	! !	I I	 	l I	i i	 	l I	i i	I I	l I
		ŀ	loamy coarse	! !	I I	 	l I	i i	 	l I	i i	I I	l I
 			sand	I I	I I		!	l i		l i		l I	l I
l I		1 23-60	Coarse sand,	GP, SP-SM,	  A-1	l l 0	I I 0-10	  55-00	  50-85	  10=40	   2-25	   0-14	l INP
ļ		23-60		GP, SP-SM,   SM, SP	   w_T	1	I 0-T0	55 <b>-9</b> 0	120-02	±0-40	2-25 	U-14	I NP
ļ			gravelly	am, ar 	I I	1			1			1	l I
ļ		1	coarse sand,	1	I I	I	I		I			I	l I
ļ			loamy coarse	1	 	I	I		I			I	l I
ļ			sand	1	 	I	I		I			I	l I
		I	I	I	I	I	I	I	I	I	I	I	I

   Map symbol	Pct.	   Depth	USDA texture	 	Classif	icati	on		Fragi	ments	•	rcentage sieve n			  Liquid	   Plas-
and	of map								>10	3-10					limit	ticity
component name	unit	L		1	Unified	A	ASHTO		inches	inches	4	10	40	200	L	index
ļ		In	1			ļ			Pct	Pct			ļ		Pct	ļ
L74A:		 				 			 	 	 	 	 	 	 	 
Hawick    	10	0-7   	Gravelly coarse   sandy loam,   sandy loam	SM,   	SP-SM	A-1,   	A-2,	A-3	0-2   	0-5   	75-95   	60-95   	35-70   	5-35   	0-14   	NP-4   
 		7-80     	Gravelly coarse   sand, coarse   sand, sand	SP,     	SP-SM	A-1,     	A-2,	A-3	0-2   	0-5     	60-95     	50-95   	30-65     	2-10     	0-14     	NP     
Biscay	3	0-20	Loam	ML,	CL	A-6,	A-7		l I 0	i I 0	  95-100	  95-100	  70-95	  50-80	  35-50	10-25
į		20-28	•	ML,		A-6, 	A-7		0   	0 	95-100   	90-100   	70-90   	  50-75   	  30-50   	  10-20 
   		   28-36     	Gravelly loam,   sandy loam,   gravelly sandy   loam	į	SC-SM, SC	  A-4   			   0   	   0-5   	  95-100     	  70-95   	  50-80     	  35-50     	  15-30     	   2-10   
İ		36-60 	Gravelly coarse   sand		GP, -SM, GP-GM	  A-1 			   0 	   0-5 	  45-95 	  35-95 	  20-45 	   2-10 	   	NP 
L75B:			İ	ŀ		<u> </u>			 	! 	! 	 	! 	 	 	! 
Barrington	85	0-15	Silt loam	CL		A-4,	A-6		0	0	100	95-100	90-100	80-95	30-40	8-18
			Silt loam	CL		A-6,			0	0	100			80-95		11-25
   		33-60     	•		SM, SC, , CL-ML	A-4,     	A-6		0     	0     	95-100     	80-100     	75-100     	36-90     	15-30     	5-15     
  Gladek	10	   0-10	  Silt loam	CL		  A-6,	A-4		   0	   0	   100	  95-100	  90-100	  80-95	  25-40	   8-20
 		10-39   	Silty clay   loam, silt   loam	     		A-6,   	A-7		0   	0   	100   	  95-100   	  90-100   	80-90   	30-45   	  15-25   
 		39-80     	Very fine sandy   loam, silt   loam	CL,   	CL-ML	A-4,     	A-6		0   	0     	95-100     	95-100   	90-100     	80-90     	24-40     	4-15     
Madelia	5	   0-19	  Silty clay loam	CL		  A-6			   0	0	   100	   100	1 100	  90 <b>-1</b> 00	40-50	10-25
 		•	Silty clay   loam, silt   loam	     		  A-6,   	A-7		   	     	100   	100   	   100   	  90-100   	30-50   	10-25   
 		37-60   	Silt loam,   silty clay   loam	CL,   	ML	A-4,   	A-6,	A-7	0   	0   	100   	100   	100   	90-100   	30-50   	5-25   

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

   Map symbol	Pct.	   Depth	USDA texture	Classif	ication	Frag	ments	•	rcentago sieve n		ng	  Liquid	   Plas
and	of map	i				>10	3-10	i				limit	
component name	unit	i	i I	Unified	AASHTO		inches	4	1 10	l 40	1 200		index
		In	İ			Pct	Pct	<u> </u>				Pct	
L76B:		 		 	 		 	 	 	 	 		 
Dickinson	80	0-14	Fine sandy loam	lsm.sc-sm.sc	  A-2. A-4	i o	0	100	100	  85-95	30-50	15-30	  NP-10
		•		SM, SC, SC-SM		1 0	1 0	1 100	100	85-95	•	•	NP-10
i			loam, sandy	,, 	 	i -	-						 
i		i	loam	i	i	i	i	i	i	i	i	i	i
i		39-60	Sand, loamy	SM	A-2, A-3	ίο	i o	100	100	70-90	5-20	0-14	NP
i			fine sand,	 	, 	i -	-						
İ		İ	loamy sand	İ	İ	i	İ	i	i	İ	İ	i	İ
Litchfield	13	   0-20	Loamy fine sand	 Ism	  A-2	   0	   0	   100	   100	  80-95	  15-35	  15-20	  NP-4
		•	Fine sand	SW-SM	A-2	1 0	1 0	100		80-95			NP-4
i			Very fine sandy		1	1 0	1 0	100	•			0-25	
i			loam			1	i					0 20	
İ		40-80	Loamy fine	SM	A-2, A-3	0	0	100	100	70-95	5-30	15-20	NP-4
 		 	sand, loamy sand	 	 		 	 	 	 	 	 	 
  Darfur	5	   0-9	Loam	  sc-sm, ol	  A-4	   0	   0	   100	   100	   100	  60-80	  25-40	  NP-10
i		9-19	Loam	SC-SM, OL	A-4	i o	i o	100	100		60-80	•	NP-10
į		19-31	Fine sandy	SM	A-4	j o	j o	100	100	70-100	35-50	20-30	NP-5
į		 	loam, loam, loamy fine	 	 	 	;   	 	 	 	;   	   	 
i		31-60	Stratified fine	ı İsm	  A-2, A-4	i 0	i o	1 100	1 100	  50-100	115-40	i	l NP
i			sand to loamy	 	, 	i -	i -					i	i
i		i	fine sand to	İ	i	i	i	i	i	i	i	i	i
i		i	fine sandy	İ	i	i	i	i	i	i	i	i	i
į		į	loam	į	į	į	į	į	į	į	į	į	į
 	2	   0-14	Loam	  CL, CL-ML	  A-4, A-6	   0	   0-5	  95-100	  95-100	  75-90	  50-75	  25-40	   5-15
į		14-33	Loam	CL-ML, CL	A-4, A-6	j 0	0-5	90-100	85-100	75-90	50-75	25-40	5-15
į		33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L77A:		 		 	 		 	 	 	 	 		 
Brownton	75	0-22	Silty clay loam	CH, MH	A-7	j 0	0	100	95-100	90-100	85-95	50-65	20-35
į		•		CH, MH	A-7	j o	j 0	100	95-100	90-100	85-95	50-80	25-40
į		İ	clay, silty	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
į		İ	clay loam	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
į		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
j				l		1							l

Map symbol	Pct.	   Depth	USDA texture	Classi	fication	Frag	ments	•	rcentag sieve n	e passi:	_	  Liquid	   Plas-
and	of map	l	ODDIT CONCUTO		ı	>10	J 3-10	<u>'</u>	DICTO II	umber .		limit	
component name	unit		 	Unified	AASHTO		inches	————   4	1 10	1 40	200	I	index
Component name	unic	In	<u> </u>		AADIIIO	Pct	Pct				200	Pct	
L77A:			 	 			 	 	 	 	 	 	 
Marna	15	0-20	Silty clay loam	CH	  A-7	i o	i o	  95-100	90-100	90-100	  85-95	45-75	  15-45
			Clay, silty	CH	A-7	1 0	0			90-100			
i		i	clay, silty	İ	i	i	i	i	i	i	i	i	i
i		i	clay loam	i	i	i	i	i	i	i	i	i	i
i		32-41	Silty clay	CL	A-7	j o	j 0	90-100	90-100	85-95	65-90	40-50	20-30
į		i	loam, clay	İ	i	i	i	i	i	i	i	i	i
i		i	loam	i	i	i	i	i	i	i	i	i	i
į		41-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
  Lura	10	   0-10	  Silty clay	  CH	  A-7	   0	   0	   100	   100	  95-100	  90-100	  50-75	  25-45
i		•		CH	A-7	i o	i o	100		95-100			
į		i	clay	İ	i	i	i	i	i	i	į	i	į
į		58-72	Silty clay,	CH, CL	A-7	j o	j 0	100	100	95-100	90-100	40-75	15-45
j		İ	silty clay	ĺ	İ	İ	İ	İ	İ	İ	ĺ	İ	ĺ
ļ			loam, clay		ļ	ļ	ļ			!		ļ	
L78A:		 	 	 			 	 	 	 	 	 	 
Canisteo	65	0-18	Clay loam	OL, CL	A-6	0	0	95-100	95-100	85-100	60-100	40-50	15-20
I		18-39	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-20
ļ		39-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Crippin	10	   0-15	  Loam	CL	  A-6, A-7	0	0	  95-100	  95-100	  80-90	  60-80	  30-45	  10-20
I		15-27	Loam, clay loam	CL	A-6		0-5	95-100	90-100	80-90	60-80	30-40	10-20
ļ		27-60	Clay loam, loam	CT	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Glencoe	10	0-10	  Clay loam	CL, ML, OL	  A-6, A-7	0	0	  95-100	  90-100	  75-100	  60-90	  40-50	  15-20
I		10-35	Silty clay	CL, OL, ML	A-6, A-7	0	0	95-100	90-100	75-100	60-90	30-50	10-20
ļ			loam, clay	 				 	 	 	 		 
¦		l 35-48	!	CL, ML	  A-6	0	i o	I   95-100	  90-100	  75-100	1 160-90	1   30-40	l   5-20
i		55 -5	loam, silty		1	"	"				1		0 20
i		i	clay loam	i	i	i	i	i	i	i	İ	i	i i
İ		48-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	  75-90	50-75	30-40	12-20
Canisteo,			l I	 				 	 		 		 
depressional	5	0-17	  Silty clay loam	CL, ML	  A-6	0	l 0	  95-100	95-100	  85-100	  60-100	40-50	115-20
		•		ML, CL	A-6		•			85-95		•	
i			loam, silty			i	" "						
i		i	clay loam	i	i	i	i	i	i	i	i	i	i
į		30-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
 	5	   0-13	  Clay loam	CH, CL	  A-6, A-7	   0	   0-5	  95-100	  95-100	  80-90	  65-80	  35-55	  15-35
	_	•	Clay loam, loam		A-6	0-1		•	•	75-90	•	•	
i			Clay loam, loam	•	A-6	0-1	1			75-90			
i			i	i	i	ĺ	i	i	İ	İ	İ	İ	į
ı		I	I	I	I	I	I	I	I	I	I	I	I

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classi	fication	Frag	ments	•	rcentag sieve n	_	_	  Liquid	   Plas-
and	of map				I	>10	3-10	i					ticity
component name	unit	i	i	Unified	AASHTO		inches	4	10	40	200	i	index
		In	İ		İ	Pct	Pct			į .		Pct	
L78A:		 	 				 	 	 	 	 	 	 
Webster	5	0-19	Clay loam	OL, CL	A-7, A-6	0	0-5	95-100	95-100	85-95	75-90	40-50	15-20
   		19-26   	Clay loam,   silty clay   loam, loam	  -  CT	A-6, A-7   	0   	0-5   	95-100   	95-100   	85-95   	65-85   	35-45   	15-25   
		26-60 	Clay loam, loam	CL	A-6 	0-1	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20 
L79B:		İ	İ		İ	i							
Clarion	65	0-14	1	CL, CL-ML	A-4, A-6	0			95-100				5-15
			Loam	CL-ML, CL	A-4, A-6	0	•	•	85-100	•	•	•	5-15
		33-60 	Clay loam, loam	CL	A-6 	0-1	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20 
Clarion, eroded	25	0-10	Loam	CL, CL-ML	A-4, A-6	i o	0-5	95-100	95-100	75-90	50-75	25-40	5-15
į		10-38 	Loam, sandy	CL-ML, CL	A-4, A-6	j 0 			  85-100 	•			5-15
į		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Nicollet	8	0-17	Clay loam	CL, ML	A-7, A-6	0-1	   0-5	  95-100	  90-100	85-100	  55-85	  35-50	10-25
i I		•	Clay loam, loam, silty clay loam	  CT 	A-6, A-7 	0-1   		•		•		35-50   	•
i   		33-36   	Clay loam, loam, silty clay loam	  CL 	A-6, A-7 	0-1   	0-5   	95-100   	90-100   	80-95   	55-80   	35-50   	  15-25   
į		36-60	Clay loam, loam	CL	A-6	0-1	0-2	  95-100 	90-98	75-90	  50-75	30-40	12-20
Webster	2	0-19	Clay loam	OL, CL	A-7, A-6	i 0	0-5	95-100	95-100	85-95	75-90	40-50	15-20
i !		19-26   	Clay loam,   silty clay   loam, loam	  CL 	A-6, A-7 	j 0   	0-5   	95-100   	95-100   	85-95   	65-85   	35-45   	  15-25   
į		26-60	Clay loam, loam	CL	A-6	0-1	0-2	  95-100 	90-98	  75-90 	  50-75	30-40	12-20
L80C2:		i	i	İ	i	i	i	i	İ	i	İ	İ	i
Lester, eroded	75	0-7	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
I		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
			Clay loam, loam	•	A-6	0-1						30-40	
ļ		60-80 	Clay loam, loam	CL	A-6 	0-1 	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20
Terril	10	0-27	Loam	CL	  A-6	0	0-2	95-100	  95-100	70-90	60-80	30-40	10-20
İ		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
I		40-63	Clay loam, loam	CL, CL-ML	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
 		63-80 	Clay loam, loam 	  CT	A-6 	0-1 	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20 

| Classification

Table 14.--Engineering Index Properties--Continued

I				Classif	ication	Fragi	nents	Per	rcentage	e passin	ng		
Map symbol	Pct.	Depth	USDA texture					:	sieve nu	mber		Liquid	Plas-
and	of map					>10	3-10	l				limit	ticity
component name	unit	ĺ	Ì	Unified	AASHTO	inches	inches	4	10	40	200		index
		In	Ī	<u> </u>	İ	Pct	Pct	İ	l		ĺ	Pct	
i		İ	i	İ	İ	i	İ	i	i		i		
L80C2:		İ	i	İ	İ	i	i	i	i		i	i	
Hamel	5	0-24	Loam	CL, ML	A-4, A-6	i o	i o	100	95-100	85-100	60-85	30-40	5-20
i		24-46	'	CH, CL	A-6	i o	0	95-100	95-100	85-95	65-80	40-55	25-35
i		İ	loam, silty	İ	İ	i	İ	i	i		i		
i		İ	clay loam	İ	İ	i	İ	i	i		i		
i		46-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
i		İ	i -	İ	İ	i	İ	i	i		i		
Reedslake	5	0-12	Loam	CL, CL-ML	A-6	i o	0-2	95-100	90-98	80-95	60-75	25-40	5-15
i		12-26	Clay loam, loam	CL	A-6, A-7	I 0	0-2	95-100	90-98	80-95	60-80	32-45	12-25
i		26-48	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
i		48-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
i		İ	į	İ	İ	i	İ	i	i	i	i		
Storden, eroded	5	0-7	Loam	CL	A-6	0	0-5	95-100	95-98	75-95	60-75	28-36	9-15
İ		7-55	Loam, clay loam	CL	A-6	0	0-5	95-100	90-98	70-95	55-70	28-39	9-18
İ		55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
İ		ĺ	Ì	İ	İ	ĺ	ĺ	ĺ	ĺ		ĺ		
L80D2:		ĺ	Ì	İ	İ	ĺ	ĺ	ĺ	ĺ		ĺ		
Lester, eroded	75	0-7	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
j		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
I		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
I		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
I													
Ridgeton	10	0-23	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
		23-38	Loam, clay loam	CL, CL-ML	A-6, A-7	0	0-3	95-100	90-100	70-90	60-80	25-45	5-20
I		38-50	Clay loam, loam	CL-ML, CL	A-7, A-6	0	0-2	95-100	90-100	65-95	50-85	20-45	5-20
I		50-80	Clay loam, loam	Cr	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Storden, eroded	8		Loam		A-6	0			95-98		•		9-15
l		•	Loam, clay loam		A-6	0	•		90-98		•	•	9-18
ļ		55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
			!		<u> </u>			!					
Terril	5	0-27		CT	A-6	0	•	•	95-100		•		10-20
Į.			Loam, clay loam		A-6	0	•		90-100		•	30-40	5-20
		•	Clay loam, loam		A-6	0	•	•	90-100		•		5-20
!		63-80	Clay loam, loam	Cr	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
,			1										
Hamel	2	0-24			A-4, A-6	0	0		95-100				5-20
ļ		24-46		CH, CL	A-6	0	0	1 132-T00	95-100	85-95	102-80	40-55	25-35
ļ		  -	loam, silty	 	 	 	 				 		
ļ		46 00	clay loam	l at				   05 100	100.00	75 00			112 20
ļ		46-80 	Clay loam, loam	I CP	A-6	0-1	0-2	1 132-T00	90-98	/5-90	150-75	30-40	12-20
I		I	I	I	I	I	I	I	I		I	I	l

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classif	ication	Fragi	ments	•	rcentage	_	_	  Liquid	l Plac-
and		Deptn	USDA texture	l ————	1	>10	3-10	; 	sieve n	umber			Plas-  ticity
component name	of map unit	l I	1	   Unified	AASHTO		3-10  inches	l ——— I 4	l 10	l 40	1 200	l TTMIC	index
Component name	unic	In	Ī		AASHIO	Pct	Pct	<del></del>	10	=0	200	Pct	I
L81A:		 	 	 	 	 	 	 	 	 	 	 	 
Cordova	85	0-18 	Clay loam 	MH, ML, CL,   OH	A-6, A-7 	0 	0 	95-100 	95-100 	90-100 	70-85 	40-60 	15-25 
 		18-38   	Silty clay   loam, clay   loam	  CT	A-6   	0   	0   	90-100   	90-100   	85-95   	65-90   	40-50   	20-30   
I		38-80 	Clay loam, loam	CL	A-6 	0-1 	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20 
Le Sueur	10	0-17	Clay loam	CL, ML	A-7, A-6	i o	,   0	95-100	95-100	90-100	  75-90	35-50	10-25
 		17-37   	Clay loam,   loam, silty   clay loam	 	A-6, A-7   	0   	o 	  95-100   	  95-100   	  85-100   	60-80   	35-50   	  15-25   
		37-46	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		46-80 	Clay loam, loam	CL	A-6 	0-1 	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20 
Rolfe	5	0-12	Silt loam	OL, ML, CL	A-4, A-6	j 0	0	100	95-100	90-100	80-95	30-40	5-15
į		   12-20 	Silt loam, clay	ML, CL	A-6, A-4	0 	0 	100 	95-100 	90-100 	75-95 	30-40 	5-35 
İ		20-35	Silty clay	CH	  A-7	i o	i o	100	  95-100	90-100	  90-100	  50-65	25-35
į		35-51	Clay loam, loam	CL	A-6, A-7	j 0	0	95-100	90-100	80-90	55-75	30-45	10-20
į		51-60 	Clay loam, loam	CT	A-6	   0-1	0-2	95-100 	90-98 	75-90 	50-75 	30-40 	12-20
L82A:		i	i	İ	i	i	! 		i i		İ	i	
Marna	85	0-20	Silty clay loam	CH	  A-7	0	0	95-100	90-100	90-100	  85-95	  45-75	  15-45
 		•	Clay, silty clay, silty clay loam	CH   	  A-7 	   0 		95-100   	•	•	•	•	•
   		32-41   	Silty clay   loam, clay   loam	  CT	A-7   	0   	0   	90-100   	90-100   	85-95   	65-90   	40-50   	20-30   
		41-60 	Clay loam, loam	CL	A-6 	0-1 	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20 
Barbert	10	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	90-100	25-40	5-15
į		7-17	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	90-100	25-40	5-15
ĺ		17-43 	Clay, silty	CH, MH	A-7 	0 	0 	100 	100	90-100	90-100	50-80 	20-50
 		43-60     	Silty clay   loam, silt   loam	CL, ML, CL-ML	A-4, A-6, A-7   	0   	0     	100     	100     	90-100     	90-100     	25-50     	5-20   
  Guckeen	5	I I 0-15	  Silty clay loam	। l ਾਸ	  A-7	l l 0	l I 0	   100	  95-100	   95_100	I   80-95	I   40-55	  15-25
Guckeen      	5	•	Silty clay loam  Silty clay,   silty clay   loam, clay	CH   	A-7  A-7 	0   0 	0   0 		95-100  95-100 				
i		24-30	Clay loam, loam	CL	A-6, A-7	i	0-2	90-100	90-98	85-95	60-75	30-50	10-25
į		•	Clay loam, loam	•	A-6	   0-1 		95-100 	•				

			ļ.	Classif	ication	Frag	ments	•	_	e passin	_		
Map symbol	Pct.	Depth	USDA texture	ļ	1	-		'	sieve n	umber		Liquid	•
and	of map					>10	3-10					limit	ticity
component name	unit	<u> </u>	<u> </u>	Unified	AASHTO		inches	4	10	40	200	<u> </u>	index
		In		<u> </u>		Pct	Pct	!	!	!	!	Pct	ļ
						-	!		!	!			!
L83A:													
Webster	65			OL, CL	A-7, A-6	0				85-95			
!		19-26		CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	35-45	15-25
ļ			silty clay			- !	!						!
ļ			loam, loam										
		26-60	Clay loam, loam	CT	A-6	0-1	0-2	95-100	190-98	75-90	50-75	30-40	12-20
  Glencoe	15	   0-10	  Clay loam	CL, ML	  A-6, A-7	I I 0	I I 0	   05 100	   00 100	  75-100	   60 00	140 50	115 20
GIENCOE	15			CL, ML	A-6, A-7	I 0	0   0	•		75-100	•	•	10-20
l I		10-35	loam, clay	CL, OL, ML	A-0, A-/	0	1	  33-100	  30-100	/3-100	60-90 	30 <b>-</b> 30	1 10-20
l I		 	loam, loam	l I	I I	-	! !	l I	l I	 	 	l I	
		   35_40		CL, ML	  A-6	I I 0	I I 0	   05_100	   00_100	  75-100	   60-00	30_40	   5-20
		1 22-40	loam, silty	l CD, MD	I A-0	1	1	   33-100	   30-100	/3-100	00-90 	120-40	] J-20
¦		I I	clay loam	! !		-	I I	l I	l I	l I	l I	I I	
¦		   48-60	Clay loam, loam	l l ct.	  A-6	   0-1	   0-2	   95_100	   an_as	  75-90	I   50-75	  30_40	  12=20
¦		<del>1</del> 0-00	CIAY TOAM, TOAM	I CII	I I	1 0-1	U-Z 	   33-100	30-36 	73-90 	30 - 73 	30- <del>1</del> 0	12-20 
Canisteo	10	0-18	Clay loam	OL, CL	  A-6	i 0	0	I   95-100	  95-100	  85-100	ı  60-100	  40-50	15-20
		•	Clay loam, loam	•	A-6	1 0	•	•		60-95	•	•	5-15
i			Clay loam, loam	•	A-6	0-1		•		75-90	•	•	
i				i		-	i						
Nicollet	10	0-17	Clay loam	CL, ML	A-6, A-7	0-1	0-5	95-100	90-100	85-100	55-85	35-50	10-25
i		•		CL	A-6, A-7	0-1		•		80-95	•		
į		i	loam, silty	İ	İ	i	i	İ	i	i	i	i	i
į		İ	clay loam	İ	j	İ	İ	İ	İ	İ	İ	İ	İ
į		33-36	Clay loam,	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	35-50	15-25
j		İ	loam, silty	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
j		İ	clay loam	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
j		36-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
ĺ		İ	İ	ĺ	İ	İ	ĺ	ĺ	ĺ	ĺ	ĺ	İ	İ
L84A:													
Glencoe	80	0-10	Clay loam	CL, ML, OL	A-6, A-7	0	0	95-100	90-100	75-100	60-90	40-50	15-20
I		10-35	Silty clay	CL, OL, ML	A-6, A-7	0	0	95-100	90-100	75-100	60-90	30-50	10-20
I			loam, clay										
I			loam, loam										
I		35-48	Loam, clay	CL, ML	A-6	0	0	95-100	90-100	75-100	60-90	30-40	5-20
I			loam, silty										
I			clay loam										
I		48-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		ļ	ļ.	<u> </u>	ļ	!	ļ	ļ	ļ	ļ	ļ	ļ	ļ.
Very poorly			l .	<u> </u>		1		ļ	ļ	ļ	ļ	ļ	!
drained muck	10		Muck	PT	A-8	0	0						
ļ		12-29		ML, OL, CL	A-6, A-7	0	0	95 <b>-</b> 100	90-100	75-100	60-90	30-50	10-20
ļ			loam, clay			-	!	l			l		
ļ		20 50	loam, loam	l ar			1 0 0	   05 100	100.00			120 40	112 22
I		29-60	Clay loam, loam	l CT	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classi	fication	Frag	ments		rcentage sieve n	_	_	  Liquid	   Plag
and	of map	l pebeu	ODDA CEACGIE	l		>10	l 3-10	¦ '	sieve ii	uniber		limit	
component name	unit	l I	I I	   Unified	   AASHTO		inches	   4	l 10	l 40	1 200		index
Component name	unic	l In	<u> </u>	l onitied	AASHIO	Pct	Pct	l	1 10	<del>1</del> 0	<u>2</u> 00	l Pct	I
ł		<del></del>		! 		100	1	i	! !	! !	i	100	
L84A:		i		İ		i	i	i	i	i	i	i	
Canisteo	5	0-18	Clay loam	OL, CL	A-6	0	j 0	95-100	95-100	85-100	60-100	40-50	15-20
j		18-39	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-20
į		39-80	Clay loam, loam	CT	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
  Harps	5	   0-13	  Clay loam	CH, CL	  A-6, A-7	   0	   0-5	  95-100	  95-100	  80-90	  65-80	  35-55	  15-35
i		13-30	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
į		30-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L85A:		 		 	1	 	 	 	 	 	 	 	 
Nicollet	85	0-17	Clay loam	CL, ML	A-6, A-7	0-1	0-5	95-100	90-100	85-100	55-85	35-50	10-25
 		17-33 	loam, silty	  CL	A-6, A-7 	0-1 	0-5 	95-100 	90-100 	80-95 	55-80 	35-50 	15-25 
ļ			clay loam										
		33-36	loam, silty	CL	A-6, A-7 	0-1	0-5 	95-100		80-95 	55-80	35-50 	15-25
		   36-60	clay loam  Clay loam, loam	CL 	  A-6	0-1	0-2	  95-100	  90-98 	  75-90	  50-75	  30-40	  12-20
Clarion	10	   0-14	Loam	  CL, CL-ML	  A-4, A-6	0	   0-5	  95-100	  95-100	  75-90	  50-75	  25-40	   5-15
j		14-33	Loam	CL-ML, CL	A-4, A-6	0	0-5	90-100	85-100	75-90	50-75	25-40	5-15
ļ		33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Webster	5	   0-19	  Clay loam	OL, CL	  A-7, A-6	   0	   0-5	  95-100	  95-100	I  85-95	  75-90	  40-50	  15-20
j   		19-26   	Clay loam,   silty clay   loam, loam	  CT	A-6, A-7 	0 	0-5   	95-100   	95-100   	85-95   	  65-85   	35-45   	15-25
ļ		26-60	Clay loam, loam	Cr	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L86A:		l I	 	 		 	 	 	 	 	 	 	l I
Madelia	90	0-19	Silty clay loam	CL	A-6	0	j 0	100	100	100	90-100	40-50	10-25
 		19-37   	Silty clay   loam, silt   loam	  CL 	A-6, A-7 	0   	0 	100   	100   	100   	90-100   	30-50   	10-25 
i ! !		37-60     	Silt loam,   silty clay   loam	CL, ML	A-4, A-6, A-7	0   	0     	100     	100     	100     	90-100     	30-50     	5-25   
Okoboji	5	0-26	Silty clay loam	Сн	  A-7	0	0	1 100	1 100	  90-100	  80-95	  50-60	  30-35
j		26-42	Silty clay	СН	A-7	j 0	j 0	100	100	90-100	80-95	50-60	30-35
į		42-60	Silty clay loam	CL	A-6	0	0	95-100	95-100	90-100	80-95	40-48	30-35

   Map symbol	Pct.	   Depth	USDA texture	 	Class	sifi	icati	on		Fragi	ments		_	ge passi: number	ng	  Liquid	   Plas-
and	of map			i					i	>10	3-10					limit	
component name	unit	i		; ·	Unified		   2∆	ASHTO	i		inches	4	l 10	l 40	200		index
		In	1	l	omilica					Pct	Pct		1			Pct	
L86A:		 	 	 			 				 				 	 	 
Spicer	3	0-16	Silty clay loam	CL			A-6,	A-7	i	0	i o i	100	100	95-100	90-100	35-50	10-25
		•	Silt loam,   silty clay   loam	CL			A-6,		   	0	0   	100	100	95-100			
İ		40-60   		CL			A-4,	A-6		0	0   	100	100	95-100	  85-100   	30-40   	   5-25   
  Kingston	2	   0-16	  Silty clay loam	CL			A-6			0	   0	100	   100	  95-100	  85-100	  30-40	  10-20
 		16-25   	Silty clay   loam, silt   loam	CL,	CL-ML,	ML	A-4,	A-6,	A-7	0	0     	100	100   	95-100	85-100   	25-50   	6-20   
   		25-60   	Silt loam,   silty clay   loam	CL,	CL-ML,	ML	A-4,	A-6	     	0	0     	100	100	95-100	  85-100   	  25-50   	5-20     
L87A:		İ	İ						į								
Kingston	85		Silty clay loam				A-6		ļ	0	0	100	100	95-100		•	
 		16-25   	Silty clay   loam, silt   loam	CL,   	CL-ML,	ML	A-4, 	A-6,	A-7    	0	0       	100	100   	95-100   	85-100   	25-50   	6-20   
 		   25-60   	Silt loam,   silty clay   loam	CL,   	CL-ML,	ML	A-4,	A-6	   	0	0   	100	100	95-100	  85-100   	  25-50   	   5-20   
  Truman	10	   0-14	  Silt loam	I CL,	CL-ML		  A-4,	A-6	l	0	I I	100	1 100	95-100	  80-100	  25-40	   5-15
i !		14-36   	Silt loam,   silty clay   loam	CL,   	CL-ML		A-4,	A-6,	A-7	0	0   	100	100   	95-100	80-100   	  25-45   	5-20
į		36-60	Silt loam	CL,	CL-ML		A-4,	A-6	į	0	0	100	100	95-100	  75-95	25-40	5-15
  Madelia	5	   0-19	  Silty clay loam	CT			  A-6			0	   0	100	100	100	  90-100	  40-50	  10-25
   		19-37   	Silty clay   loam, silt   loam	    CL			A-6,	A-7	   	0	0       	100	100   	100   	90-100   	30-50   	10-25   
 		37-60   	Silt loam, silty clay loam	CL,	ML		A-4,	A-6,	A-7	0	0     	100	100   	100   	90-100   	30-50   	5-25   

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classi 	fication	Fragi	nents		rcentag sieve n	e passi: umber	-	  Liquid	   Plas-
and	of map	į	İ	İ	1	>10	3-10	i				limit	ticity
component name	unit			Unified	AASHTO	inches	inches	4	10	40	200		index
ļ		In	ļ		!	Pct	Pct		ļ			Pct	
L88A:		 	 	 			 	 	 	 	 	 	 
Lura	85	0-10	Silty clay	CH	A-7	j 0	0	100	100	95-100	90-100	50-75	25-45
İ		10-58 	Silty clay,   clay	Сн 	A-7	j 0 	0 	100 	100	  95-100 	  90-100 	  50-75 	  25-45 
 		58-72   	Silty clay,   silty clay   loam, clay	CH, CL	A-7   	0   	0	100   	100   	95-100     	90-100   	40-75   	15-45   
Brownton	10	0-22	  Silty clay loam	CH, MH	  A-7	0	   0	1 100	  95-100	  90-100	I  85-95	  50-65	  20-35
		22-38	Silty clay,   clay, silty   clay loam	CH, MH 	A-7 	0 	0 	100 	95-100 	90-100 	85-95 	50-80 	25-40 
		   38-60 	Clay loam, loam	CL 	  A-6	0-1	   0-2 	  95-100	  90-98 	  75-90 	  50-75 	  30-40	  12-20
Organic soil	5	   0-10	Muck	l   PT	  A-8	l l 0	l l 0	¦	I I	¦ 	! 	! 	¦
			Mucky silty   clay loam	МН 	A-7	0	0   0	100	  95-100 	  90-100 	  85-95 	  60-90 	  10-30 
į		26-48   	Clay loam,   silty clay   loam	,  Сн	A-6, A-7	0	   0 	  95-100 	  90-100   	  80-100 	  60-90 	  35-65   	  20-30 
   		   48-80   		  CH, CL   	  A-7 	0   	   0 	   100   	   100   	  95-100   	  90-100   	  40-75   	  15-45   
L89A:		 	l I	 			 	 	 	 	 	 	 
Guckeen	82	0-15	Silty clay loam	CH	A-7	j o	0	100	95-100	95-100	80-95	40-55	15-25
 		15-24   	Silty clay,   silty clay   loam, clay	СН   	A-7   	0   	0   	100   	95-100   	95-100   	80-95   	40-65   	15-30   
į		24-30	Clay loam, loam	CL	A-6, A-7	i	0-2	90-100	90-98	85-95	60-75	30-50	10-25
į		30-60	Clay loam, loam	CT	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Marna	10	0-20	Silty clay loam	CH	  A-7	0	0	  95 <b>-</b> 100	  90 <b>-1</b> 00	90-100	  85-95	  45-75	  15-45
   		20-32   	Clay, silty clay, silty clay loam	СН   	A-7   	0   	0   	95-100   	90-100   	90-100   	85-95   	50-80   	20-45   
į		   32-41   	Silty clay   loam, clay   loam	  CT	A-6 	0   	   0 	  90-100   	  90-100   	  85-95   	  65-90   	  40-50   	  20-30   
į		41-60 	Clay loam, loam	  CT	A-6	0-1	   0-2 	  95-100 	90-98 	75-90 	50-75 	  30-40 	  12-20 
Clarion clay		į	j 	 	<u> </u>	į	 				 		į
loam	8	•	Clay loam	CL-ML, CL	A-4, A-6	0		95-100					5-15
		•	Clay loam	CL-ML, CL	A-4, A-6  A-6	0   0-1		90-100  95-100	•				5-15
		3/-80	Clay loam, loam		A-0	0-1	U-Z 	 	50-98 	/3 <b>-9</b> 0	30-75	30-40	12-20

Map symbol	Pct.	   Depth	USDA texture	Classi:	fication	Fragi	ments		rcentag sieve n	ng	  Liquid	   Plag	
and	of map	Depth	ODDA CEACUTE	l ————————————————————————————————————		   >10	J 3-10	'	sieve ii	uniber		limit	
component name	unit	 	I I	   Unified	   AASHTO		3-10  inches	l l 4	l 10	l 40	1 200	I	index
component name	unit		<u> </u>	Unified	AASHTO			4	1 10	1 40	200	<u> </u>	Index
		In			!	Pct	Pct				!	Pct	
L90A:			1	 	!			 	 		 		
Le Sueur	75	   0 17	  Clay loam	CL, ML	  A-6, A-7	l l 0	I I 0	   05 100	   05 100	   00 100	   75 00	  35-50	  10 25
Le Sueur	75	•		CL, ML	A-6, A-7	I 0						35-50	
		17-37 	loam, silty	I CE	A-0, A-/	0	1	  33-100	  33-100	102-100	00-00 	122-20	13-23 
		I I	clay loam	! !	-	-	 	l I	l I	i i	l I	i	l I
		   37-46	Clay loam, loam	I I ст.	I   A-6	0-1	0-2	I   95_100	I Ian_as	   75_90	I   50-75	  30-40	  12_20
		•	Clay loam, loam	•	A-6	0-1						30-40	
		40-00 	cray roam, roam	I	I I	1 0-1	U-Z	33-100 	50-50 	73-30 	30-73 	1	12-20 
Cordova	13	   0-18	Clay loam	MH, ML, CL,	A-6, A-7	i 0	i i o	I   95-100	ı 195–100	   90=100	I   70-85	40-60	I  15-25
0010010		1 0 10		OH CE	1	"	i	33 ±00	33 ±00	1		1	1
		l   18-38	Silty clay	CL	  A-6	i 0	i o	  90-100	I   90-100	  85-95	l   65-90	40-50	  20-30
		20 00	loam, clay	I	0	"							1
į		i	loam	i	i	i	i	i	i	i	i	i	i
		38-80	Clay loam, loam	CL	  A-6	0-1	0-2	  95-100	  90-98	  75-90	  50-75	30-40	  12-20
		i		İ	i	i	i	i	i	i	i	i	i
Reedslake	12	0-12	Loam	CL, CL-ML	  A-6	i o	0-2	  95-100	90-98	80-95	  60-75	25-40	5-15
		12-26	Clay loam, loam	CL	A-6, A-7	i o	0-2	95-100	90-98	80-95	60-80	32-45	12-25
		•	Clay loam, loam	•	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		48-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		İ	İ	İ	İ	i	İ	İ	İ	İ	İ	İ	İ
L91A:		İ	İ	ĺ	İ	j	İ	ĺ	ĺ	İ	ĺ	İ	ĺ
Mazaska	85	0-15	Silty clay loam	CL, CH	A-6, A-7	0	0	95-100	95-100	85-100	70-95	35-55	12-28
		15-42	Clay, silty	CH, CL	A-7	0	0	90-100	85-100	75-95	60-90	40-65	15-35
			clay loam			- 1							
		42-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Lerdal	10	0-8	Clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-95	60-90	35-50	10-22
		8-12	Clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-95	60-90	35-50	10-22
		12-41	Silty clay	CL, ML, CH,	A-7	0	0	95-100	90-100	80-95	70-90	45-70	20-35
			1	MH									
			loam										
		41-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Rolfe	5		•	CL, ML, OL	A-4, A-6	0	0			90-100	•		5-15
		12-20	Silt loam, clay	ML, CL	A-6, A-4	0	0	100	95-100	90-100	75-95	30-40	5-35
		!	loam	!	!	!	!	!	!	!	ļ	!	!
				CH	A-7	0	0			•	•	50-65	
		•	Clay loam, loam	•	A-6, A-7	0	0			80-90			10-20
		51-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

   Map symbol	Pct.	   Depth	USDA texture	Classi 	fication	Fragi	ments		rcentag sieve n	e passi: umber	ng	  Liquid	   Plas-
and	of map				1	>10	3-10	i				limit	•
component name	unit	i		Unified	AASHTO		inches	4	1 10	40	200		index
		In	İ		İ	Pct	Pct			!		Pct	
L92A:		 		 			 	 	 	 	 	 	 
Darfur	78	0-9	Loam	SC-SM, OL	  A-4	i o	i o	100	100	100	60-80	25-40	NP-10
i		9-19	Loam	SC-SM, OL	A-4	i o	i o	100	100	100	60-80	25-40	NP-10
i		19-31	Fine sandy	SM	A-4	i o	i o	100	100	70-100	35-50	20-30	NP-5
į		i	loam, loam,	İ	į	i	i	i	i	i	i	i	i
į		į	loamy fine sand	İ	į	į	İ	į	į	į	į	į	į
¦		   21 60	Stratified fine	l I aw	  A-2, A-4	l l 0	l l o	   100	   100	  50-100	  1= 40		l NP
l I		1 21-00	sand to loamy	SM 	A-2, A-4	0	1	1 100	1 100	120-100	112-40		NP
¦		i i	fine sand to	I I	-	-	l I	I I	l I	I I	l I		i i
¦		i	fine sandy	I I		i	! !	! !	! !	! !	! !		<u> </u>
			loam		į		<u> </u>						
  Fieldon  	10	   0-19 	  Loam 	  CL-ML, ML,   SC-SM	  A-4 	   0 	   0 	   100 	   100 	  85-95 	  50-75 	  20-28 	  NP-10 
i		19-37	Fine sandy	SM, SC-SM	A-4	i o	i o	100	100	70-90	35-60	15-30	NP-5
į		i	loam, very	İ	į	i	i	i	i	i	i	i	i
į		i	fine sandy	İ	į	i	i	i	i	i	i	i	i
j		İ	loam, loam	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
j		37-60	Stratified fine	SM	A-2, A-4	0	0	100	100	60-100	15-40	j	NP
			sand to loamy			I						1	
ļ			fine sand	 			 						
Litchfield	5		Loamy fine sand		A-2	0	0	100	!	80-95	•		NP-4
			Fine sand	SM	A-2	0	0	100	100	80-95	•		NP-4
l I		33-40	Very fine sandy   loam	ML, SC-SM 	A-4 	0 	0 	100 	95-100 	90-100 	80-95 	0-25	NP-5 
I		40-80	Loamy fine	SM	A-2, A-3	0	0	100	100	70-95	5-30	15-20	NP-4
 		 	sand, loamy sand	 		ļ	 	 	 	 	 	 	 
  Webster	5	   0-19	  Clay loam	OL, CL	  A-7, A-6	0	   0-5	  95-100	  95-100	  85-95	  75-90	  40-50	  15-20
		19-26	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	35-45	15-25
ļ		26-60	Clay loam, loam	CT	  A-6	0-1	0-2	  95-100	  90-98	  75-90	  50-75	30-40	12-20
  Dassel  	2	   0-6 	  Mucky fine   sandy loam	  sc-sm 	  A-4 	   0 	   0 	   100 	  95-100 	  70-85 	  50-65 	  15-30 	  NP-4 
į		6-23	Fine sandy loam	SC-SM	A-4	0	,   0	100	95-100	70-85	50-65	15-30	NP-4
į		•	Loamy very fine sand	•	A-2, A-4	j o	o 	100	•	  55-80 		•	  NP-4 
į		31-60	Fine sand	SP-SM	A-2	0	0	100	80-100 	  45-90	  10-55	j	NP

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classi:	Eication	Fragi	nents	•	rcentago sieve no	_	ng	Liquid	    Plas-  ticity
and	of map				I	>10	3-10	i					
component name	unit	i	i	Unified	AASHTO	inches		4	10	40	200	i	index
		In	İ.	İ		Pct	Pct	<u> </u>	<u> </u>		<u> </u>	Pct	<u> </u>
L93A:		 	 	 				 	 	 	 		 
Muskego	82	0-16	Muck	PT	A-8	0	0						
	 	16-76 	Coprogenous   earth	  OL	A-5 	0 	0 	95-100 	95-100 	85-100 	75-96 	40-50 	2-8 
ļ	 	76-80 	Clay loam, loam	CL	A-6	0-1 	0-2	95-100 	90-98 	75-90 	50-75 	30-40	12-20 
Blue Earth	10	   0-10 	Mucky silty   clay loam	OL, ML	  A-5 	0	0	  95-100 	  95-100 	  85-95 	  80-95 	  41-50 	2-8
		10-68       	Mucky silty   clay loam,   clay loam,   mucky silt   loam	OL, ML       	A-5     	0       	0     	95-100       	80-100       	80-95       	80-95       	41-50       	2-8       
İ	j 	68-80	Clay loam, loam	  CL 	A-6 	0-1 	0-2	95-100 	90-98 	75-90	  50-75 	30-40 	  12-20 
Mineral soil,													
drained	5		Loam	CL	A-6	0						30-35	
		13-31   	Silty clay   loam, clay   loam, loam	  -  CT	A-6, A-7   	0   	0   	95-100   	90-100   	75-100   	60-90   	30-50   	10-20   
		31-45     	Sandy loam,   clay loam,   silty clay   loam	SC, CL     	A-4, A-6   	0     	0	90-100       	  85-100     	  60-95     	45-90     	30-40	5-20     
		45-80   	Sandy loam,   clay loam,   loam	SM, SC, CL     	A-4, A-6   	0-1   	0-2   	85-100     	   75-95     	  60-90     	40-90     	25-40   	3-20     
Belleville	3	0-11	Sandy loam	SC-SM, SM	A-4	i o	0	100	95-100	60-90	  35-50	0-25	NP-5
		11-27   	Loamy sand, fine sand, sand	SC-SM, SM, SP-SM	A-1-b, A-2,   A-3, A-4	   0 	0	  90-100   	  80-100   	  40-85   	5-45   	0-25	NP-5   
		27-48   	Loam, clay  loam, silty   clay loam	  CT	A-6 	0-1	0-2	95-100   	90-98   	80-95   	55-90   	20-40	10-25   
		48-80	Clay loam, loam	  CL	  A-6 	0-1	0-2	  95-100 	  90-98 	75-90	  50-75 	30-40	  12-20 

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classif	ication	_i	ments	•	_	e passi: umber	_		   Plas-
and component name	of map unit			   Unified	   AASHTO	>10	3-10 inches	   4	1 10	l 40	1 200	limit	ticity  index
Component name	unic	In	<u> </u>		AASHIO	Pct	Pct	! <del>-</del>	ļ <u>10</u>	40	200	Pct	Index
L94A:		 	l I	 	 		 	 	 	 	 		 
Lowlein    	75	0-18   	Fine sandy   loam, sandy   loam	sm, sc-sm   	A-4   	0	0   	90-100   	85-100   	60-75   	35-50   	15-20	NP-5   
İ		18-27	Fine sandy   loam, loamy   sand	SC-SM, SM	  A-4 	0	0 	90-100 	  85-100 	60-90	35-80 	15-20	NP-5 
		   27-46   	Stratified   loamy sand to   fine sandy   loam	  SM, SC-SM   	  A-2   	0	   0   	  90-100     	  85-100     	  60-90   	  25-80   	0-20	  NP-5     
į		   46-72 	Silt loam, clay   loam, loam	CL	  A-6 	0	   0 	  95-100 	  90-98 	  75-90 	50-75 	30-39	  12-20 
İ		72-80	Clay loam, silt	cr 	  A-6 	0	0 	95-100 	  90-98 	75-90 	50-75 	30-39	  12-20 
Linder	15		Loam	  sc	  A-4, A-6	0	0	•		  80-95		25-40	8-15
ļ		15-29	Sandy loam	SC-SM, SC	A-2, A-4	0	0			45-75		20-30	5-10
		29-00               	Stratified   gravelly   coarse sand to   coarse sand to   loamy coarse   sand, gravelly   loamy sand,   loamy coarse   sand	j 	A-1               		0-5               	75-95                 	               		2-12               	0-14               	NP               
Dickinson	8	0-14	Fine sandy loam	SM, SC-SM, SC	A-2, A-4	0	0	100	100	85-95	30-50	15-30	NP-10
   		14-39   	Fine sandy   loam, sandy   loam	SM, SC, SC-SM   	A-4   	0   	0   	100   	100   	85-95   	35 <b>-</b> 50   	15-30   	NP-10   
į		39-60   	Sand, loamy   fine sand,   loamy sand	sm     	A-2, A-3   	i o   	0   	100     	100     	70-90   	5-20   	0-14	NP   
Darfur	2	0-9	Loam	SC-SM, OL	  A-4	0	0	100	100				NP-10
ļ		9-19	Loam	SC-SM, OL	A-4	0	0	100	100				NP-10
   		19-31     	Fine sandy   loam, loam,   loamy fine   sand	SM     	A-4   	0     	0   	100     	100     	70-100     	35-50     	20-30     	NP-5     
		31-60       	Stratified fine   sand to loamy   fine sand to   fine sandy   loam	SM         	A-2, A-4         	0	0       	100           	100           	50-100           	15-40         	         	NP       

Classification Fragments Percentage passing Map symbol Pct. Depth USDA texture sieve number--|Liquid| Plasand of map >10 3-10 limit | ticity Unified component name unit AASHTO |inches|inches| 10 40 | 200 index In Pct Pct Pct L95E: Hawick-----80 Gravelly coarse SM, SP-SM A-1, A-2, A-3 0-2 0-5 |75-95 |60-95 |35-70 | 5-35 0-14 NP-4

|SC, SC-SM, SM|A-2, A-4

GP, SM, SP,

SM, SC, CL-ML A-4

SP-SM

SC, SM

|SC, SC-SM, SM|A-1, A-2, A-4| 0

A-1

A-4

|A-1, A-2, A-3| 0-2

A-1, A-2, A-3 0-2

A-1, A-2, A-3 0

A-1, A-2, A-3 0

0-5

0-5

0-5

0-5

0

0

0

0

100

100

0

0

0

0

|75-95 |60-95 |35-70 | 5-25 |

|60-95 |50-95 |30-65 | 2-10 | 0-14 |

|85-100|80-95 |40-75 |15-45 |20-30

0-10 |55-90 |50-85 |10-40 | 2-25 | 0-14 |

|60-100|50-90 |20-60 | 2-10 | ---

|80-100|50-95 |25-65 |

90-100 80-100 50-75 25-50 20-30 2-10

100 |85-100|45-90 |20-35 | 2-10

4-20

|95-100|85-100|45-90 |20-45 | 7-10

0-14

NP

2-8

NP

NP

NP

| sandy loam | 7-10 |Gravelly loamy |SM, SP-SM

coarse sand, |
gravelly |
coarse sand, |
loamy sand |
10-60 | Gravelly coarse | SP, SP-SM

sand, coarse
sand, sand

| loam, coarse | sandy loam 13-60 | Coarse sand,

Sandy loam

gravelly coarse sand, loamy coarse sand

8-13 | Sandy loam,

0-33 | Loam

33-42 Loam, sandy

loam

42-47 | Gravelly coarse | SP, SP-SM

47-80 | Gravelly loamy | SP, SP-SM

sand, loamy
coarse sand,
sand

coarse sand,
coarse sand,
sand

Estherville----|

Tomal1-----

10

10

0-8

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classif:	ication	Fragi	nents		rcentage sieve nu		ng	  Liquid	   Plas-
and	of map	į -	İ		1	>10	3-10	i 				limit	ticity
component name	unit	İ	İ	Unified	AASHTO	inches	inches	4	10	40	200	į .	index
I		In	1	 	 	Pct	Pct	 	 	 		Pct	
L96B:			İ										
Estherville	55	•		SC-SM, SM, SC		0				•		20-30	
   		13-18   	Sandy loam,   loam, coarse   sandy loam	SC-SM, SM, SC   	A-1, A-2, A-4   	0   	0-5   	85-100   	80-95   	40-75   	15-45   	20-30   	2-8   
   		18-23       	Coarse sand,   gravelly   coarse sand,   loamy coarse   sand	SP-SM, SP, SM       	A-2       	0       	0-10   	55-90       	50-85       	10-40       	2-25       	0-14     	NP       
   		23-60       	Coarse sand,   gravelly   coarse sand,   loamy coarse   sand	GP, SP-SM,   SM, SP     	<b>A-1</b>       	0       	0-10     	55-90         	50-85         	10-40       	2-25       	0-14       	NP       
Hawick    	35	   0-7 	Gravelly coarse   sandy loam,   sandy loam	SM, SP-SM	  A-1, A-2, A-3 	   0-2   	0-5	  75-95   	  60-95   	  35-70   	   5-35   	0-14	  NP-4 
   		7-80   	Gravelly coarse   sand, coarse   sand, sand	SP, SP-SM   	  A-1, A-2, A-3   	   0-2   	0-5	  60-95   	  50-95   	  30-65   	2-10     	0-14   	NP   
Tomall	8	0-33	1	SM, SC, CL-ML	•	0	0	100		  85-100			2-10
 		33-42 	Loam, sandy   loam	SM, SC 	A-4 	0 	0 	100 	95-100 	85-100 	45-90 	20-45 	7-10 
 		42-47   	Gravelly coarse   sand, loamy   coarse sand,   sand	SP, SP-SM   	A-1, A-2, A-3   	0     	0   	80-100     	50-95     	25-65     	4-20   	   	NP   
   		   47-80   	Gravelly loamy   coarse sand,   coarse sand,   sand	SP, SP-SM	  A-1, A-2, A-3   	   0   	0	  60-100     	  50-90     	  20-60   	   2-10     	     	NP     
Biscay	2	   0-20	  Loam	  ML, CL	  A-6, A-7	   0	0	  95-100	  95-100	  70-95	  50-80	  35-50	  10-25
   		20-28   	Loam, clay loam, sandy clay loam	ML, CL	A-6, A-7   	0   	0   	95-100   	90-100   	70-90   	50-75   	30-50	10-20   
   		28-36     	Gravelly loam,   sandy loam,   gravelly sandy   loam	İ	A-4     	       	0-5	  95-100     	  70-95     	  50-80   	35-50     	15-30     	2-10     
į		36-60 	Gravelly coarse   sand	SP, GP, SP-SM, GP-GM	  A-1 	0 	0-5	45-95 	  35-95 	  20-45 	   2-10 	 	NP 

Table 14.--Engineering Index Properties--Continued

Man sumbal	Det	   Dambb	USDA texture	Classif	ication	Fragi	ments		rcentag	_	ng	  Liquid	    plac-
Map symbol	Pct.	Depth	USDA texture					! '	sieve n	umber			
and	of map	!				>10	3-10					llimit	ticity
component name	unit			Unified	AASHTO		inches	4	10	40	200	<u> </u>	index
		In				Pct	Pct	ļ	ļ	!	ļ	Pct	
L97C:		 		l i	l i	 			 	 	 	!	
Hawick	60	l l 0-7	  Gravelly sandy	l low on_ow	  A-3, A-1, A-2	   0-2	l   0-5	  75-95	  60-05	   25_70	   5-35	0-14	IND_4
nawick	80	U-7	loam, sandy	SM, SP-SM	M-3, M-1, M-2 	U-2 	U-5	/3-33 	60 <b>-</b> 35	33 <b>-</b> 70	5-35 	1 0-14	INP-4
		 	loam	l I	l I	 	!	!	 	!	 	1	
		   7_90	Gravelly coarse	l len en⊥ew	  A-1, A-2, A-3	   0-2	   0-5	  60-95	   50_05	   30_65	   2-10	0-14	l NP
		7-00 	sand, coarse	Dr , Dr - DM	<del>1                                   </del>	0-2 	U-3	00-55 	30-33 	30-03 	<u>2</u> -10	1 0-11	112
		 	sand, sand	I I	l I	l I	! !	I I	I I	! !	! !	:	:
 		i i	sand, sand	! 	! 	l I	i i	! 	! 	! 	l İ	¦	i
Estherville	30	0-13	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	  80-100	  50-75	25-50	20-30	2-10
i		13-18	Sandy loam,	SM, SC, SC-SM	A-1, A-2, A-4	i o	0-5	85-100	80-95	40-75	15-45	20-30	2-8
į		İ	loam, coarse	i	İ	i	i	i	i	i	i	i	i
į		i	sandy loam	İ	İ	i	i	i	i	i	i	i	i
j		18-23	Coarse sand,	SP-SM, SP, SM	A-2	0	0-10	55-90	50-85	10-40	2-25	0-14	NP
İ		ĺ	gravelly	ĺ	İ	ĺ	İ	İ	İ	ĺ	ĺ	İ	ĺ
j		ĺ	coarse sand,	ĺ	İ	ĺ	İ	İ	ĺ	ĺ	ĺ	İ	ĺ
			loamy coarse										
I			sand										
I		23-60	Coarse sand,	GP, SP-SM,	A-1	0	0-10	55-90	50-85	10-40	2-25	0-14	NP
I			gravelly	SM, SP									
I			coarse sand,										
			loamy coarse										
			sand			ļ					ļ	ļ	
  Tomall	10	l l 0-33	  Loam	  SM, SC, CL-ML	   A = 4	l l 0	l I 0	   100	   100	  85-100	  45-90	  20-35	   2-10
			Loam, sandy		A-4	l 0	i 0		95-100	•	•		7-10
i			loam		 	i	i						
į		42-47	Gravelly coarse	SP, SP-SM	A-1, A-2, A-3	0	i o	80-100	50-95	25-65	4-20	i	NP
į		i	sand, loamy	İ	İ	i	i	i	i	i	i	i	i
j		İ	coarse sand,	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
j		İ	sand	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
j		47-80	Gravelly loamy	SP, SP-SM	A-1, A-2, A-3	0	0	60-100	50-90	20-60	2-10	j	NP
			coarse sand,										
			coarse sand,										
I			sand										
		ļ				ļ				ļ	l		
L98A:   Crippin	50	   0-15	  Loam	  CL	  A-6, A-7	l I 0	   0	  95-100	   05_100	   80_90	  60-80	  30-45	110-20
 	30		Loam, clay loam		A-6, A-7	l						30-40	
l I			Clay loam, loam	•	A-6	l 0-1					•	30-40	
		2, 00	i can't roum, roum		! ~	. • -	. ~ -	1-3 -30	1-0 -0	1.5 50		100 10	1-2 20

Table 14.--Engineering Index Properties--Continued

   Map symbol	Pa+		USDA texture	Classi:	fication	Fragm	nents	Percentage passing sieve number				  Timia	   Plas-
map symbol   and	of map	l Pebrii	DEDM CANCILE	l ————————————————————————————————————		-    >10	3-10	·	ereve U	mmer		Liquid  limit	
component name	unit	 		   Unified	   AASHTO	inches		   4	l 10	l 40	l 200	11M1C	index
	unic	l In	I	l onizited	12151110	Pct	Pct	<del>-</del>	l = 0	l	1	l Pct	I
			i i	! 	i i	100	100	! 	i	i i	i i	1	i
L98A:		i	i	İ		i i		i	i	i	i	i	i
Nicollet	40	0-17	Clay loam	CL, ML	A-6, A-7	0-1	0-5	95-100	90-100	85-100	55-85	35-50	10-25
į		17-33	Clay loam,	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	35-50	15-25
			loam, silty										
			clay loam										
		33-36	1	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	35-50	15-25
			loam, silty										
			clay loam	<u> </u>				!			!	!	!
ļ		36-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Canisteo	5	l l 0-18	  Clay loam	OL, CL	  A-6	1 0 1	0	l   95-100	  95-100	l  85-100	I  60-100	  40-50	  15-20
	-		Clay loam, loam		A-6	0-1			80-98	•		•	12-20
İ			Clay loam, loam	•	A-6	0-1			90-98	•		•	
		İ	i	İ	İ	i i		İ	İ	İ	i	i	i
Clarion	5	0-14	Loam	CL, CL-ML	A-4, A-6	0	0-5	95-100	95-100	75-90	50-75	25-40	5-15
		14-33	Loam	CL-ML, CL	A-4, A-6	0	0-5	90-100	85-100	75-90	50-75	25-40	5-15
ļ		33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L99B:				 					 	 	 		
Clarion	62	   0-14	Loam	CL, CL-ML	A-4, A-6	1 0 1	0-5	I   95-100	  95-100	I   75-90	I   50-75	  25-40	   5-15
		14-33	•	CL-ML, CL	A-4, A-6	0 1			85-100	•		•	5-15
İ		33-60	Clay loam, loam	CL	A-6	0-1			90-98	•			12-20
į		j	İ	İ	j	i i		İ	İ	j	İ	į	İ
Swanlake	25	0-9	Loam	CL	A-6	0	0-5	90-100	85-98	75-90	50-70	28-36	9-15
		9-43	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		43-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
  Nicollet	10	0 17		  CL			0-5	 	   00 100	 			
NICOTIET	10		Clay loam	CT	A-6, A-7  A-6, A-7	0-1			90-100  90-100	•		•	
l I		1/-33 	loam, silty	I CT	A-0, A-7	1 0-1 1	0-5	  33-100	30-100	00 <b>-</b> 95	33 <b>-</b> 80	35 <b>-</b> 50	13-25 
I I		! !	clay loam	I I	1			! !	! !	! !	! !	<u> </u>	<u> </u>
		l   33-36		l CL	A-6, A-7	0-1	0-5	  95-100	  90-100	I   80-95	l   55-80	  35-50	  15-25
			loam, silty	i		-							
İ		i	clay loam	İ	İ	i i		i	i	İ	i	i	i
j		36-60	Clay loam, loam	CT	A-6	0-1	0-2	95 <b>-</b> 100	90-98	75-90	50-75	30-40	12-20
. !				!						<u> </u>	<u> </u>		
Webster	3			OL, CL	A-7, A-6	0			95-100	•			
		19-26	1	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	35-45	15-25
			silty clay	l	1					l	ļ	ļ	
			loam, loam	l ar	1	   0-1	0-2	   05 100					110 00
I		∠6-60	Clay loam, loam	I CT	A-6	I 0-T	0-2	122-T00	90-98	/5-9U	150-75	3U-4U	±2-20

   Map symbol	Pct.	   Depth	USDA texture	Classi 	fica	tion		Fragi	ments		rcentago sieve n	_	ng	  Liquid	   Plas
and	of map	ĺ	Ì	ĺ				>10	3-10	İ				limit	ticity
component name	unit			Unified	$\perp$	AASH	TO	inches	inches	4	10	40	200		index
		In	ļ.		ļ			Pct	Pct	ļ				Pct	
L100B:		 	 	 				 	 	 	 	 	 		 
Clarion	45	0-14	Loam	CL, CL-ML	A-	4, A-	6	0	0-5	95-100	95-100	75-90	50-75	25-40	5-15
į		14-33	Loam	CL-ML, CL	A-	4, A-	6	0	0-5	90-100	85-100	75-90	50-75	25-40	5-15
		33-60	Clay loam, loam	CL	A-	6		0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Estherville	35	   0-13	  Sandy loam	  SC-SM, SM, S	I SC A-	2, A-	4	   0	   0-5	  90-100	  80-100	  50-75	  25-50	  20-30	   2-10
į		13-18	Sandy loam,	SC-SM, SM, S	C A-	1, A-	2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	2-8
İ		İ	loam, coarse sandy loam	   	İ			İ				İ		Ì	İ
		   18_23		I  SP-SM, SP, S	 !1wrlz⊾_	2		l l 0	l l 0=10	  55_90	  50-85	I   10=40	   2-25	0-14	l NP
I I		10-25 	gravelly	Br-bm, br, b	-A M	4		i	l 0-10	33-30 	30-03 	10-40	2-25 	1 0-11	112
i		i	coarse sand,	İ	i			i	İ	i	i	i	i	i	i
į		İ	loamy coarse	İ	i			i	İ	i	i	i	i	i	i
į		İ	sand	İ	i			İ	İ	İ	į	İ	İ	İ	İ
į		23-60	Coarse sand,	GP, SP-SM,	A-	1		0	0-10	55-90	50-85	10-40	2-25	0-14	NP
			gravelly	SM, SP											
			coarse sand,												
ļ			loamy coarse											1	
		 	sand	 				 	 	 	 	 	 		 
Lowlein	5	0-14	Sandy loam	SM, SC-SM	A-	4		0	l I 0	90-100	85-100	  60-75	  35-50	15-20	NP-5
i				SM, SC-SM	A-			0	0	•	•	•		15-20	
į		į	fine sandy	İ	i			İ	İ	i	i	į	i	i	i
į		İ	loam	İ	i			İ	İ	İ	į	İ	İ	İ	İ
į		24-31	Loamy sand,	SM, SP-SM	A-	2, A-	3	0	0	90-100	85-100	50-75	5-35	0-5	NP
			sand, fine												
			sand												
		31-60 	Clay loam, loam	CL	A-	6		0-1	0-2 	95-100 	90-98 	75-90 	50-75 	30-40	12-20
Nicollet	5	0-17	Clay loam	CL, ML	A-	6, A-	7	0-1	0-5	95-100	90-100	  85-100	  55-85	35-50	10-25
į		17-33	Clay loam,	CL	A-	6, A-	7	0-1	0-5	95-100	90-100	80-95	55-80	35-50	15-25
į		ĺ	loam, silty	ĺ	ĺ			İ	ĺ	İ	İ	ĺ	ĺ	İ	İ
			clay loam												
		33-36	Clay loam,	CL	A-	6, A-	7	0-1	0-5	95-100	90-100	80-95	55-80	35-50	15-25
			loam, silty												
			clay loam												
l I		36-60 	Clay loam, loam	CL	A-	6		0-1 	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20 
Swanlake	5	0-9	Loam	CL	A-	6		0	0-5	90-100	  85-98	75-90	50-70	28-36	9-15
į		9-43	Clay loam, loam	CL	A-	6		0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
į		43-60	Clay loam, loam	CL	A-	6		0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
													I		

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classi	fication	Fragi	ments	•	rcentago sieve n	_	_	  Liquid	   Plac
and	of map	Depth	ODDA CEACGIE	l		>10	J 3-10	' '	sieve ii	uniber -		limit	
component name	unit	! 	 	   Unified	AASHTO		inches	   4	l 10	l 40	1 200		index
	uni c	In	!			Pct	Pct	<u> </u>				Pct	
L100B:		 		 		 	 	 	 	 			 
Webster	5			OL, CL	A-7, A-6	0		•			•	40-50	•
 		19-26   	Clay loam,   silty clay   loam, loam	    CL	A-6, A-7   	0   	0-5   	95-100   	95-100   	85-95   	65-85   	35-45   	15-25   
		26-60 	Clay loam, loam	  CT	A-6 	0-1 	0-2 	95-100 	90-98 	75-90 	50-75 	30-40	12-20 
L101C2:		İ	Ì	ĺ	İ	İ	ĺ	ĺ	İ	İ	İ	İ	ĺ
Omsrud, eroded	40	0-9	Loam	CL	A-6	0	0-2	95-100	90-98	85-95	55-75	30-35	11-15
İ		9-19	Loam, clay loam	CL	A-6	0	0-2	95-100	90-98	75-95	55-80	32-39	12-18
		19-36	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
į		36-80	Clay loam, loam	CT	<b>A</b> -6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
   Hawick   	30	   0-7 	Gravelly sandy   loam, sandy   loam	  SM, SP-SM   	  A-3, A-1, A-2 	   0-2   	   0-5   	  75-95   	  60-95   	  35-70   	   5-35   	   0-14 	  NP-4 
 		7-80   	Gravelly coarse   sand, coarse   sand, sand	SP, SP-SM 	A-1, A-2, A-3	0-2   	0-5   	  60-95   	  50-95   	30-65   	2-10	0-14	NP 
Storden, eroded	5	   0-7	  Loam	CL	  A-6	   0	   0-5	  95-100	  95-98	  75-95	  60-75	  28-36	   9-15
		7-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
I		55-80 	Clay loam, loam	CL	A-6	0-1 	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20
Delft	5	0-37	Loam	CL	A-6, A-7	0	0	  95-100	90-100	  75-90	60-80	30-45	10-20
į		37-50 	Clay loam, silt	  CT	A-6	0 	0 	95-100 	90-100 	70-90 	50-75 	30-40	  12-20 
į		50-60	Clay loam, loam	CL	<b>A</b> -6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Terril	5	   0-27	  Loam	CL	  A-6	   0	   0-2	  95-100	  95-100	  70-90	  60-80	  30-40	  10-20
		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		40-63	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
ļ		63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90 	50-75	30-40	12-20
L101D2:		! 	 	! 	1	! 	l İ	! 	! 	! !	i	1	i
Omsrud, eroded	40	l 0-9	Loam	l CL	  A-6	l   0	l   0-2	I   95-100	1   90-98	I   85-95	  55-75	30-35	  11_15
			Loam, clay loam	1 -	A-6	0					•	32-39	
		•	Clay loam, loam	•	A-6	0-1					•	30-40	
		•	Clay loam, loam	•	A-6	0-1					•	30-40	
   Hawick    	25	   0-7 	Gravelly coarse   sandy loam,   sandy loam	  SM, SP-SM   	  A-3, A-1, A-2 	   0-2   	   0-5   	  75-95   	  60-95   	  35-70   	   5-35 	   0-14 	  NP-4   
   		7-80	Gravelly coarse   sand, coarse   sand, sand	  SP-SM, SP   	A-1, A-2, A-3	0-2   	   0-5   	60-95   	  50-95   	30-65   	2-10	0-14	NP   

Map symbol	Pct.	   Depth	USDA texture	Classi	fication	i	nents	•	rcentag sieve n	_	_		    Plas
and	of map	!			ļ	>10	3-10	ļ				limit	ticit
component name	unit	   In	I	Unified	AASHTO	inches	inches   Pct	<u>4</u> 	10 	40 	200	Pct	index
		į	į		į			į	į	į	į		į
L101D2:													
Storden, eroded	20	0-7	Loam	CL	A-6	0	0-5	95-100		•	60-75	•	9-15
		7-55	Clay loam, loam		A-6	0-1	0-2	95-100		75-90			12-20
		55-80 	Clay loam, loam	I CT	A-6 	0-1	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20
Ridgeton	6	0-23	•	CL	A-6	j o					60-80		10-20
		23-38	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		38-50	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		50-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
   Delft	5	   0-37	  Loam	CL	  A-6, A-7	   0	   0	  95-100	  90 <b>-1</b> 00	  75-90	  60-80	  30-45	10-20
į		37-50	Clay loam, silt	Cr	A-6	j o	0	95-100	90-100	70-90	50-75	30-40	12-20
l I		   50-60	loam  Clay loam, loam	  CL	  A-6	   0-1	0-2	  95-100	  90-98	  75-90	  50-75	  30-40	  12-20
			İ	ĺ	İ	İ		İ	İ	į	İ		į
Terril	4	0-27	1	CT	A-6	0					60-80		10-20
		27-40	Loam, clay loam	•	A-6	0					60-80		5-20
			Clay loam, loam		A-6  A-6	0   0-1					50-85  50-75	30-40	5-20  12-20
į		į	į		į	į		į	į	į	į	į	į
L102C2:											!		
Omsrud, eroded	45	0-9	1	CL	A-6	0					,	30-35	•
		•	Loam, clay loam	•	A-6	0		95-100			,	32-39	•
		!	Clay loam, loam		A-6	0-1	0-2	95-100			,	30-40	•
		36-80 	Clay loam, loam	I CT	A-6 	0-1	0-2 	95-100 	90-98 	75 <b>-</b> 90 	50-75 	30-40	12-20
Storden, eroded	25	0-7	Loam	CL	  A-6	j 0	0-5	  95-100	95-98	75-95	60-75	28-36	9-15
		7-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		55-80	Clay loam, loam	CT	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
     Omsrud	15	   0-12	  Loam	CL	  A-6	   0	   0-2	  95-100	  90-98	  85-95	  55-75	  30-35	11-15
į		12-16	Loam, clay loam	CL	A-6	j o	0-2	95-100	90-98	75-95	55-80	32-39	12-18
į		16-32	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
į		32-60	Clay loam, loam	Cr	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
   Terril	10	   0-27	Loam	  CL	  A-6	l l 0	l l 0-2	  95-100	  95-100	  70-90	  60-80	  30-40	10-20
i			Loam, clay loam	CL	A-6	i o	0-3	95-100			60-80		5-20
i			Clay loam, loam		A-6	i o					50-85	20-40	5-20
į		63-80	Clay loam, loam	•	A-6	0-1	0-2					30-40	12-20
   Delft	5	   0-37	Loam	  CL	  A-6, A-7	   0	   0	  95-100	  90-100	  75-90	  60-80	  30-45	110-20
	-		Clay loam, silt		A-6	0						30-40	
į		į	loam	İ	i	i	j	į	İ	į	i	i	i
1		50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

   Map symbol	Pct.	   Depth	USDA texture	Classi	fication	Fragi	ments	:	rcentage sieve n	_	ng	  Liquid	   Plas
and	of map	i -	į	İ	1	>10	3-10	i				limit	ticit
component name	unit	İ	į	Unified	AASHTO	inches	inches	4	10	40	200	i	index
İ		In	į.	<u> </u>	İ	Pct	Pct	İ		İ		Pct	İ
 L102D2:		 	l I	 			 	 	 	 	 	 	 
Omsrud, eroded	45	0-9	Loam	CL	A-6	j o	0-2	95-100	90-98	85-95	55-75	30-35	11-15
į		9-19	Loam, clay loam	CL	A-6	0	0-2	95-100	90-98	75-95	55-80	32-39	12-18
į		19-36	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
ĺ		36-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Storden, eroded	20	   0-7	  Loam	CL	  A-6	0	   0-5	  95-100	  95-98	  75-95	  60-75	  28-36	   9-15
		7-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Omsrud	15	   0-12	  Loam	CL	  A-6	0	   0-2	  95 <b>-</b> 100	  90-98	।  85-95	  55 <b>-</b> 75	  30 <b>-</b> 35	  11-15
		12-16	Loam, clay loam	CL	A-6	0	0-2	95-100	90-98	75-95	55-80	32-39	12-18
		16-32	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		32-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98 	75-90 	50-75	30-40	12-20
Ridgeton	8	0-23	  Loam	CL	  A-6	0	   0-2	  95 <b>-</b> 100	  95-100	  70-90	  60-80	  30-40	  10-20
		23-38	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		38-50	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
		50-80 	Clay loam, loam	CL	A-6 	0-1 	0-2 	95 <b>-</b> 100	90-98 	75-90 	50-75 	30-40 	12-20 
Delft	6	0-37	•	Cr	A-6, A-7	0	•	•	•		•	30-45	
		37-50 	Clay loam, silt   loam	CT	A-6 	0 	0 	95 <b>-</b> 100	90-100 	70-90 	50 <b>-</b> 75 	30-40 	12-20 
į		50-60	Clay loam, loam	CT	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Terril	6	   0-27	  Loam	CL	  A-6	0	   0-2	  95 <b>-</b> 100	  95-100	  70-90	  60-80	  30-40	  10-20
		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		•	Clay loam, loam	•	A-6  A-6	0   0-1	•	95-100	•			20-40 30-40	5-20
		03-00				0-1	0-2						
L103A:			ļ.	l	ļ			[	l				
Fieldon	50	0-19 	Loam	CL-ML, ML,	A-4 	0 	0 	100 	100 	85-95 	50-75 	20-28 	NP-10 
į		19-37		SM, SC-SM	A-4	0	0	100	100	70-90	35-60	15-30	NP-5
		 	loam, very fine sandy	 			 	 	 	 	 	 	 
			loam, loam										
		37-60   	Stratified fine   sand to loamy   fine sand	SM   	A-2, A-4 	0   	0   	100   	100   	60-100   	15-40 	   	NP   
		<u> </u>	İ		į	į		į		į			į
Canisteo	35			OL, CL	A-6	0			•			40-50	
			Clay loam, loam	•	A-6	0-1						30-40	
		1 30 20	Clay loam, loam	LOT	A-6	0-1	0-2	10E 100				120 40	12-20

Map symbol	Pct.	   Depth	USDA texture	Classif	ication	Frag	ments	•	rcentage sieve n	_	_	  Liquid	   Plas-
and	of map					>10	3-10					limit	ticity
component name	unit			Unified	AASHTO	inches	inches	4	10	40	200		index
ļ		In	]			Pct	Pct					Pct	
L103A:		 		! 		 	 	 	 	 	 	 	 
Darfur	10	0-9	Loam	SC-SM, OL	A-4	0	0	100	100	100	60-80	25-40	NP-10
I				SC-SM, OL	A-4	0	0	100	100		60-80		NP-10
   		19-31     	Fine sandy   loam, loam,   loamy fine   sand	SM     	A-4   	0     	0     	100     	100     	70-100     	35-50     	20-30     	NP-5     
     		31-60       	Stratified fine   sand to loamy   fine sand to   fine sandy   loam	sm       	A-2, A-4       	0         	0         	100         	100         	50-100         	15-40         	         	NP         
Glencoe	5	0-10	Clay loam	CL, ML, OL	  A-6, A-7	i i o	i i o	  95-100	  90-100	  75-100	ı  60-90	  40-50	115-20
		•		CL, OL, ML	A-6, A-7	0   		95-100 					10-20 
   		   35-48   		CL, ML	A-6 	   0 	   0 	  95-100   	  90-100   	  75-100   	  60-90   	  30-40   	   5-20   
į		48-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L105C2:		l I	1	 	-	l I	l I	l I	l I	l I	l I	l I	l I
Lester, eroded	45	l l 0-7	Loam	CL-ML, CL	  A-4, A-6	0	l   0-2	  95-100	  90-100	I 180-95	ı   50-85	25-40	   5-15
			Clay loam, loam		A-6	0-1		95-100					15-20
į		•	Clay loam, loam	•	A-6	0-1		95-100			•		12-20
į		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
  Hawick    	35	   0-7 	Gravelly sandy   loam, sandy   loam	  SM, SP-SM   	A-3, A-1, A-2	   0-2   	   0-5   	  75-95   	  60-95   	  35-70   	   5-35   	   0-14   	  NP-4   
 		7-80	Gravelly coarse sand, coarse sand, sand	SP, SP-SM   	A-1, A-2, A-3	0-2   	0-5   	60-95   	  50-95   	30-65   	2-10   	0-14   	NP   
  Terril	10	   0-27	  Loam	  CL	  A-6	   0	   0-2	  95-100	  95-100	  70-90	  60-80	  30-40	  10-20
j		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
j		40-63	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
ĺ		63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
  Hamel	5	   0-24	  Loam	CL, ML	A-4, A-6	0	   0	100	  95-100	  85-100	  60-85	  30-40	   5-20
 		24-46   	Clay loam, loam, silty clay loam	CH, CL   	<b>A-7</b> 	   0 	   0 	95-100   	  95-100   	  85-95   	  65-80   	40-55   	25-35   
į I		46-80 	Clay loam, loam	CL	A-6 	0-1 	0-2 	95-100 	90-98 	75-90 	50 <b>-</b> 75 	30-40 	12-20 

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

   Map symbol	Pct.	   Depth	USDA texture	Classi:	fication	Frag	ments		rcentage sieve n	_	ng	  Liquid	   Plas-
and	of map	i	İ	İ	1	>10	3-10	i				limit	ticity
component name	unit	i	İ	Unified	AASHTO	inches	inches	4	10	40	200	ï	index
		In	!		!	Pct	Pct					Pct	
L105C2:		 		 		 	 	 	 	 	 		 
Storden, eroded	5	0-7	Loam	CL	A-6	0	0-5	95-100	95-98	75-95	60-75	28-36	9-15
ĺ		7-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
ļ		55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L105D2:		 		 		! 	 	! 	 	 	 		 
Lester, eroded	45	0-7	Loam	CL, CL-ML	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
I		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
ļ		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
  Hawick    	35	   0-7 	Gravelly coarse   sandy loam,   sandy loam	  SM, SP-SM   	  A-3, A-1, A-2 	   0-2 	   0-5 	  75-95   	  60-95   	  35-70   	   5-35   	   0-14 	  NP-4 
		7-80	Gravelly coarse   sand, coarse   sand, sand	  SP, SP-SM   	A-1, A-2, A-3	0-2   	   0-5   	  60-95   	  50-95   	  30-65   	2-10   	0-14	NP   
Ridgeton	8	l 0-23	Loam	I CL	  A-6	l I 0	l l 0-2	  95-100	  95-100	I   70-90	  60-80	  30-40	  10-20
			Loam, clay loam	CL	A-6	ĺ			90-100				5-20
i			Clay loam, loam	'	A-6	0		•	90-100		•	•	5-20
į			Clay loam, loam		A-6	0-1						30-40	
  Hamel	5	   0-24	Loam	CL, ML	  A-4, A-6	   0	   0	   100	  95-100	  85-100	  60-85	  30-40	   5-20
   		24-46   	Clay loam,   loam, silty   clay loam	CH, CL   	A-7   	     	0   	  95-100   	  95-100   	  85-95   	65-80   	40-55   	25-35   
ļ		46-80 	Clay loam, loam	CL	A-6	0-1	0-2 	95-100 	90-98 	75-90 	50-75 	30-40	12-20 
Storden, eroded	5	0-7	Loam	CL	A-6	0	0-5	  95-100	  95-98	  75-95	60-75	28-36	9-15
		7-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
I		55-80 	Clay loam, loam	CT	A-6	0-1	0-2	95-100 	90-98 	75-90 	50-75 	30-40	12-20 
Terril	2	0-27	Loam	CL	  A-6	0	0-2	  95-100	  95-100	  70-90	60-80	  30-40	10-20
ĺ		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		40-63	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
ļ		63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L106C2:		 		 		 	 	! 	! 	 			 
Lester, eroded	62	0-7	Loam	CL, CL-ML	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
I		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
I		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
I		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
İ		1			1			I	I	1	1		l

Table 14.--Engineering Index Properties--Continued

   Map symbol	Pct.	   Depth	USDA texture	Classi	fication	Fragi	nents	:	rcentage sieve n	_	ng	  Liquid	   Plas-
and	of map	i -	į		1	>10	3-10	i				limit	ticity
component name	unit	i	i	Unified	AASHTO	inches	inches	4	10	40	200	ï	index
į.		In	İ		İ	Pct	Pct		<u> </u>	<u> </u>		Pct	
L106C2:		 	]				 	 	 	 	 		 
Storden, eroded	20	0-7	Loam	CL	A-6	0	0-5	95-100	95-98	75-95	60-75	28-36	9-15
		7-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		55-80 	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98 	75-90 	50-75 	30-40	12-20 
Terril	10	0-27	Loam	CL	  A-6	0	0-2	  95-100	  95-100	  70-90	  60-80	30-40	  10-20
		27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		40-63	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	20-40	5-20
ļ		63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98 	75-90 	50-75	30-40	12-20
Hame1	5	   0-24	  Loam	CL, ML	A-4, A-6	0	0	100	  95-100	  85 <b>-</b> 100	  60-85	  30-40	   5-20
		24-46   	Clay loam,   loam, silty   clay loam	CH, CL   	A-6   	0   	0   	95-100   	95-100   	85-95   	65-80   	40-55   	25-35   
į		   46-80 	Clay loam, loam	CL	A-6	0-1	0-2	  95-100 	  90-98 	  75-90 	  50-75 	30-40	  12-20 
Reedslake	3	0-12	Loam	CL, CL-ML	  A-6	i o	0-2	95-100	90-98	  80-95	60-75	25-40	   5-15
į		12-26	Clay loam, loam	CL	A-6, A-7	i o	0-2	95-100	90-98	80-95	60-80	32-45	12-25
i		26-48	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
į		48-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L106D2:		l İ	 				 	 	 	 	 		 
Lester, eroded	62	0-7	Loam	CL, CL-ML	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
		7-38	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
ļ		60-80 	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98 	75-90 	50-75 	30-40	12-20 
Storden, eroded	20	   0-7	Loam	CL	  A-6	0	0-5	  95-100	  95-98	  75-95	  60-75	  28-36	   9-15
		7-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
		55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90 	50-75	30-40	12-20
Ridgeton	10	   0-23	  Loam	CL	  A-6	0	0-2	  95 <b>-</b> 100	  95 <b>-</b> 100	  70-90	  60-80	  30-40	  10-20
		23-38	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	30-40	5-20
		38-50	Clay loam, loam		A-6	0			90-100			•	5-20
		50-80 	Clay loam, loam	CL	A-6 	0-1	0-2	95 <b>-</b> 100	90-98 	75-90 	50-75 	30-40 	12-20 
Terril	5	0-27	1	CT	  A-6	0			95-100		  60-80	30-40	  10-20
		27-40	Loam, clay loam		A-6	0			90-100			30-40	5-20
ļ		•	Clay loam, loam	•	A-6	0			90-100				5-20
[		63-80 	Clay loam, loam	CL	A-6 	0-1	0-2 	95 <b>-</b> 100 	90-98 	75-90 	50-75 	30-40 	12-20 
Hamel	3	0-24		CL, ML	A-4, A-6	0	0		95-100	•			5-20
		24-46   	Clay loam, loam, silty clay loam	CH, CL   	A-7   	0   	0   	95-100   	95-100   	85-95   	65-80   	40-55   	25-35   
i		46-80	Clay loam, loam	CL	  A-6	0-1	0-2	95-100	  90-98	75-90	50-75	30-40	12-20

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classif	ication	Fragi	ments		rcentage sieve n	_	_	  Liquid	   Plas-
and	of map	i -	i		1	>10	3-10	i				limit	
component name	unit	i	i	Unified	AASHTO	inches		4	10	40	200	•	index
		In	į.			Pct	Pct					Pct	
L107A:		 	 				 	 	 	 	 	 	 
Canisteo	50	0-18	Clay loam	OL, CL	A-6	0	0	95-100	95-100	85-100	60-100	40-50	15-20
1		18-39	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-20
į		39-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Glencoe	35	   0-10	  Clay loam	OL, CL, ML	  A-6, A-7	0	   0	  95-100	  90-100	  75-100	  60-90	  40-50	  15-20
 		10-35   	Silty clay   loam, clay   loam, loam	CL, OL, ML   	A-6, A-7 	0   	0   	95-100   	90-100   	75-100   	60-90   	30-50   	10-20   
į		35-48   		CL, ML	A-6 	0   	0   0 	95-100   	  90-100 	75-100   	  60-90 	  30-40 	5-20
		   48-60 	Clay loam, loam	CL	A-6	0-1	   0-2 	  95-100 	  90-98 	  75-90 	  50-75 	  30-40 	  12-20 
Harps	10		1	CH, CL	A-6, A-7	0			95-100				
1			Clay loam, loam		A-6	0-1			90-98		•		•
		30-60 	Clay loam, loam	CL	A-6	0-1 	0-2 	95 <b>-</b> 100 	90-98 	75-90 	50-75 	30-40 	12-20 
Canisteo,		į	į .		į	į į		į	į	į		į	
depressional	3	•	Silty clay loam		A-6	0	•	•	95-100	•	•	•	
   		17-30   	Clay loam,   loam, silty   clay loam	CL, ML	A-6   	   	0-5   	95-100   	90-100   	85-95   	65-85   	35-50   	15-20   
		30-60 	Clay loam, loam	CL	A-6	0-1	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20 
Crippin	2	0-15	Loam	CL	A-6, A-7	i o	0	95-100	95-100	  80-90	60-80	30-45	10-20
i		15-27	Loam, clay loam	CL	A-6	i i	0-5	95-100	90-100	80-90	60-80	30-40	10-20
į			Clay loam, loam	•	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L108A:		 					 	 	 	 	 	 	 
Cordova	65	0-18 	Clay loam 	MH, ML, CL, OH	A-6, A-7 	0	0 	95-100 	95-100 	90 <b>-</b> 100 	70-85 	40-60 	15-25 
 		18-38   	Silty clay   loam, clay   loam	CL	A-6   	0   	0   	90-100   	90-100   	  85-95   	  65-90   	  40-50   	20-30   
į		38-80	Clay loam, loam	CL	A-6	0-1	0-2 	  95-100 	90-98 	75-90	50-75 	30-40 	12-20
Rolfe	30		•	OL, ML, CL	A-4, A-6	0	0	•	95-100	•	•	•	5-15
		12-20 	Silt loam, clay   loam	ML, CL	A-6, A-4	0	0 	100 	95-100 	90-100 	75-95 	30-40 	5-35 
į		20-35	Silty clay	СН	A-7	j 0	0	100	95-100	90-100	90-100	50-65	25-35
į		35-51	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	80-90	55-75	30-45	10-20
i		51-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

|95-100|95-100|70-90 |60-80 |30-40 |10-20

|95-100|90-100|65-95 |50-85 |20-45 | 5-20

0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-45 | 12-20

Map symbol	Pct.	   Depth	   USDA texture	Classif	ication	Fragi	ments	•	_	e passi umber	_	  Liquid	   Plas-
and	of map	!	!		ļ.	>10	3-10	!				limit	ticity
component name	unit			Unified	AASHTO	inches	inches	4	10	40	200		index
!		In	!	ļ	ļ.	Pct	Pct	!		!		Pct	!
-100-		!					ļ	!				!	
L108A:	5			   CT NT		   0	l I 0						110.05
Le Sueur	5	•	Clay loam  Clay loam,	CL, ML	A-7, A-6  A-6, A-7	0   0	0   0	95-100  95-100		•			
		1/-3/ 	loam, silty	I CT	A-0, A-/	1	1	1 32-100	  95-100	102-100	00-00	33 <b>-</b> 30	15-25
¦		! 	clay loam	I I	! 	i i	i i	1	i i	i	İ		1
i		   37-46	Clay loam, loam	CL	  A-6	0-1	l   0-2	95-100	  90-98	  75-90	  50-75	30-40	112-20
i		•	Clay loam, loam	•	A-6	0-1	•	95-100	•	•	•	•	•
i		i	i	i	i	i	i	i	i	i	i	i	i
L109A:		į	İ	İ	İ	İ	İ	į	į	İ	İ	İ	į
Marna	65	0-20	Silty clay loam	CH	A-7	0	0	95-100	90-100	90-100	85-95	45-75	15-45
I		20-32	Clay, silty	CH	A-7	0	0	95-100	90-100	90-100	85-95	50-80	20-45
I			clay, silty										
		ļ	clay loam										
		32-41	Silty clay	CL	A-6	0	0	90-100	90-100	85-95	65-90	40-50	20-30
ļ			loam, clay				ļ	!		!	!	!	!
		41 60	loam  Clay loam, loam	l ar	  A-6	   0-1	   0-2	105 100	100.00	  75-90		120 40	112 20
		41-00	Clay Ioam, Ioam	I CT	A-0	1 0-1	U-2 	1 32-100	90-96 	/ 3 - 3 0 	50 <b>-</b> 75	30-40	1 12-20
Barbert	30	l l 0-7		CL, CL-ML	  A-4, A-6	l l 0	l I 0	1 100	1 100	  90-100	90-100	  25-40	5-15
		7-17	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	•	90-100	•	5-15
į		17-43	Clay, silty	CH, MH	A-7	0	j o	100	100	90-100	90-100	50-80	20-50
j		į	clay	İ	İ	İ	İ	į	į	İ	İ	İ	į
I		43-60	Silty clay	CL, ML, CL-ML	A-4, A-6, A-7	0	0	100	100	90-100	90-100	25-50	5-20
I			loam, silt	1									
!			loam	ļ	ļ.		!	!		!		!	!
	_			ļ									
Guckeen	5	•	Silty clay loam	'	A-7	0   0	0   0	•		95-100			
		15-24	Silty clay,   silty clay	CH	A-7	0	0	100	1 92-100	95-100	180-95	40-65	15-30
		l I	loam, clay	 	 	l I	l I	ŀ	l I	l I	 	¦	
¦		   24-30	Clay loam, loam	I I ст.	  A-6, A-7		   0-2	90-100	   90-98	  85-95	l 160-75	I 130-50	  10-25
i		•	Clay loam, loam	•	A-6	0-1	0-2	95-100		•			
i				 			i						
L110E:		i	i	i	i	İ	i	i	i	i	i	i	i
Lester	50	0-5	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
j		5-34	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
			Clay loam, loam		A-6	0-1		95-100					
I		60-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

A-6

A-7, A-6

A-7, A-6

0

0-2

Ridgeton-----

30

0-32 | Loam

CL

32-40 | Clay loam, loam | CL-ML, CL

40-80 | Clay loam, loam | CL

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classi	fication	Fragi	nents		rcentage sieve n	_	ng	  Liquid	   Dlac
map symbol   and	of map	Depth	UDDA CEXCUTE		1	_    >10	l 3-10	! '	sieve n	unber		•	Plas-
component name	unit		 	   Unified	   AASHTO	inches		   4	1 10	l 40	1 200	liimic	index
Component name	unic	In	<u> </u>		AASHIO	Pct	Pct	4	10	40	200	Pct	
L110E:		 	l I	 			 	 	 	 	 	 	 
Cokato	10	0-16	Loam	CL	A-6	0	0-2	95-100	90-98	80-95	60-70	32-36	13-15
   		16-30   	Clay loam,   loam, sandy   clay loam	CL 	A-6, A-7 	0   	0-5   	95-100   	90-98   	80-95   	65-80   	34-43	14-21   
		30-60 	Clay loam, loam	CT	A-6 	0-1	0-2 	95 <b>-</b> 100 	90-98 	75-90 	50-75 	30-40	12-20 
Belview	6	0-9	Loam	CL	A-6	j o	0-5	95-100	95-98	75-95	60-75	28-36	9-15
j		9-50	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
İ		50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Hamel	2	0-22	  Loam	CL, ML	  A-4, A-6	0	   0		  95-100				5-20
 		i I	loam, silty clay loam	CH, CL   	A-6   	0	   	; [	i I	i I	; [	40-55   	i I
 		41-80 	Clay loam, loam	  CT	A-6 	0-1 	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20 
Terril	2	0-24	Loam	CL	A-6	0	0-2	95-100	95-100	70-90	60-80	30-40	10-20
I		24-37	Loam, clay loam	CL	A-6	0			90-100				5-20
		•	Clay loam, loam		A-6	0	•	•	90-100		•	•	5-20
		57-80 	Clay loam, loam	CL	A-6 	0-1 	0-2 	95-100 	90-98 	75-90 	50-75 	30-40	12-20 
L110F:		İ	İ	İ	j	į	j	į	į	į	į	į	İ
Lester	55	0-6	Loam	CL-ML, CL	A-4, A-6	0	0-2	95-100	90-100	80-95	50-85	25-40	5-15
I		6-25	Clay loam, loam	CL	A-6	0-1	0-3	95-100	90-100	80-95	55-75	35-40	15-20
ļ		25-60 	Clay loam, loam	CL	A-6 	0-1	0-2 	95-100 	90-98 	75-90 	50-75 	30-40	12-20 
Ridgeton	30	0-32	Loam	CL	A-6	i 0	0-2	95-100	95-100	  70-90	60-80	30-40	10-20
i		32-40	Clay loam, loam	CL-ML, CL	A-7, A-6	i o	0-2	95-100	90-100	65-95	50-85	20-45	5-20
į		40-80	Clay loam, loam	CL	A-7, A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-45	12-20
  Cokato	8	0-16	I II.oam	l CL	  A-6	l l 0	l l 0-2	I   95-100	I 190-98	I 180-95	I 160-70	  32-36	l  13-15
	Č		Clay loam,	CT	A-6, A-7	0	•					34-43	
ļ		30-60	clay loam  Clay loam, loam	CT	  A-6	0-1	   0-2	  95-100	  90-98	  75-90	  50-75	  30-40	  12-20
  Belview	4	   0-9	  Loam	  CL	  A-6	   0	   0-5	  95-100	  95-98	  75-95	  60-75	  28-36	   9-15
i		9-50	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
į		50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100 	90-98 	75-90 	50-75 	30-40	12-20
Terril	2	0-24	•	CT 	  A-6	0		•	•		•	30-40	:
		•	Loam, clay loam	•	A-6	0	•		90-100				5-20
		•	Clay loam, loam		A-6	0			90-100				5-20
		57 <b>-</b> 80	Clay loam, loam	  CT	A-6 	0-1 	0-2 	95-100 	90-98 	75 <b>-</b> 90 	50 <b>-</b> 75 	30-40 	12-20 

Map symbol	Pct.	   Depth	USDA texture	Classi	fication	_i	ments		rcentago sieve n	e passi: umber	ng	  Liquid	
and	of map					>10	3-10					limit	
component name	unit			Unified	AASHTO	inches	inches	4	10	40	200		inde
I		In		 		Pct	Pct	 	 	 	 	Pct	
L110F:		İ				i	 	 	! 	 	 	i	İ
Hamel	1	0-22	Loam	CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	5-20
 		22-41   	Clay loam,   loam, silty   clay loam	CH, CL   	A-6   	0   	0   	95-100   	95-100   	85-95   	65-80   	40-55   	25-35   
į		41-80	Clay loam, loam	CT	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L111A:		 		 			 	 	 	 	 		
Nicollet	85	0-10	Silty clay loam	ML, CL	A-6, A-7-6	0-1	0-5	95-100	90-100	85-100	55-85	35-50	10-25
 		10-31   	Clay loam,   loam, silty   clay loam	CL 	A-6, A-7   	0-1   	0-5   	95-100   	90-100   	80-95   	55-80   	35-50   	15-25   
į		31-42	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-20
į		•	Clay loam, loam	•	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Clarion	10	   0-14	Loam	CL, CL-ML	  A-4, A-6	0	   0-5	  95-100	  95-100	  75-90	  50-75	  25-40	   5-15
į		14-33	Loam	CL-ML, CL	A-4, A-6	0	0-5	90-100	85-100	75-90	50-75	25-40	5-15
ļ		33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Webster	5	   0-24	  Silty clay loam	OL, CL	  A-7-6, A-6	0	   0-5	  95-100	  95-100	  85-95	  75-90	  40-50	  15-20
 		24-45   	Clay loam,   silty clay   loam, loam	    CL	A-6, A-7   	0   	0-5   	95-100   	95-100   	85-95   	65-85   	35-45   	15-25   
į		45-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90 	50-75 	30-40	12-20
L112A:				İ		į							
Webster	85		Silty clay loam		A-6, A-7-6	0	•		•			40-50	
   		24-45   	Clay loam,   silty clay   loam, loam	CL	A-6, A-7   	0   	0-5   	95-100   	95-100   	85-95   	65-85   	35-45   	15-25   
İ		45-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Glencoe	10	   0-10	  Clay loam	CL, ML	A-6, A-7	0	   0	  95 <b>-</b> 100	  90 <b>-</b> 100	  75 <b>-</b> 100	  60-90	  40-50	  15-20
 		10-35   	Silty clay   loam, clay   loam, loam	CL, OL, ML   	A-6, A-7   	0   	0   	95-100   	90-100   	75-100   	60-90   	30-50   	10-20   
 		35-48   	Loam, clay loam, silty clay loam	CL, ML	A-6 	0	0   	95-100   	90-100   	75-100   	60-90   	30-40   	5-20   
		48-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classif	ication	Fragi	ments		rcentag	e passi	ng	  Liquid	   Dlag
and	of map	l pebru	USDA CEXCUTE		1	-I   >10	l 3-10		sieve ii	miner			
component name	or map unit	 	l I	   Unified	   AASHTO	1	3-10  inches	   4	l 10	l 40	1 200	limic	ticity
Component name	unit	<u> </u>	<u> </u>	Unitied	AASHIO			1 4	1 10	1 40			IIIdex
		In				Pct	Pct	ļ		ļ	ļ	Pct	ļ
						!						!	
L112A:	_								100 100				
Nicollet	5		Silty clay loam	ML, CL	A-6, A-7-6	0-1   0-1						35-50	
		10-31	Clay loam, loam,	I CT	A-6, A-7	1 0-1	0-5	195-100	190-100	180-95	55-80	35-50	15-25
		 	clay loam	l I		-	 	 	 	 	 		 
l I		   21_42	Clay loam, loam	l I CT	  A-6	   0-1	l l 0-2	   05_100	   00_00	  75_00	   50_75	  30-40	  12_20
			Clay loam, loam		A-6	0-1						30-40	
¦		<del>1</del> 2-00	Clay Toam, Toam	I I	I I	1 0-1	U-Z 	 	30-36 	/ 3 - 3 0 	30-73 	30-40	12-20 
L113B:		i i	l I	l I	i	i	l I	! 	i i	! 	! 	i	! 
Reedslake	75	0-12	Loam	CL, CL-ML	  A-6	i o	0-2	  95-100	190-98	  80-95	l  60-75	25-40	5-15
			Clay loam, loam	1 - • -	A-6, A-7	i 0						32-45	
i			Clay loam, loam	1	A-6	0-1						30-40	
i		48-80	Clay loam, loam	CL	  A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
į		į	İ	İ	i	i	į	i	i	i	i	i	i
Le Sueur	10	0-17	Clay loam	CL, ML	A-7, A-6	j 0	0	95-100	95-100	90-100	75-90	35-50	10-25
j		17-37	Clay loam,	CL	A-6, A-7	j 0	0	95-100	95-100	85-100	60-80	35-50	15-25
j		ĺ	loam, silty	ĺ	İ	İ	ĺ	İ	İ	İ	İ	ĺ	İ
I			clay loam										
I			Clay loam, loam		A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
I		46-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
l													
Reedslake,						1				ļ			ļ
eroded	10	0-12	1	CL, CL-ML	A-6	0						25-40	
			Clay loam, loam		A-6, A-7	0						32-45	
			Clay loam, loam		A-6	0-1						30-40	
!		48-80	Clay loam, loam	CT	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
G 1	_					l l o						140.60	
Cordova	5	0-18	Clay loam	MH, ML, CL,	A-6, A-7	0	0	95-100	95-100	190-100	70-85	40-60	15-25
		10 20	  Silty clay	OH  CL	  A-6	I I 0	l I o	   00 100	100 100		   CE 00	  40-50	100.00
		10-30	loam, clay	I CT	A-6	0	0	1   30-T00	1 130-100	05-95 	05-90 	40-50 	20-30 
 		I I	loam, clay	I I	I I		I I	 	 	 	 		 
l I		   38_8^	Clay loam, loam	l l ct.	  A-6	   0-1	l l 0-2	   95_100	   an_ae	  75_9∩	  50-75	  30-40	  12=20
 		30-00 	Cray Toam, Toam	l CT	A - 0	U-1	U-2 	122-700	JU-30	, 3-30 	50-75 	120-40	±2-20 
I		I	I	I	I	1	I	1	1	1	I	I	1

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classif	ication	Fragi	ments		rcentago sieve n	_	-	  Liquid	   Plas-
and	of map	!				>10	3-10	ļ				limit	
component name	unit	<u> </u>	<u> </u>	Unified	AASHTO		inches	4	10	40	200	<u> </u>	index
		In				Pct	Pct					Pct	
L114A:		! 	 	 	 	1	! !	 	! 	! !	 	¦	 
Hanlon, rarely		i	İ	İ	İ	i	i	i	i	i	i	i	i
flooded	85	0-24	Fine sandy loam	SM, SC, SC-SM	A-4	j 0	0	100	100	75-80	35-50	25-35	5-10
		24-52	Fine sandy	SM, SC, SC-SM	A-4	0	0	100	100	75-80	35-50	25-35	5-10
ļ		[	loam, sandy			1						[	
			loam			!							
!		52-57	Sandy loam,	SC, SC-SM, SM	A-2, A-4	0	0	100	100	75-80	25-40	20-35	5-10
!			fine sandy   loam, loamy	 	 	!	 			 		!	 
¦		! 	fine sand	 	 	1	! !		! !	! !	i	¦	! !
i		57-80	Stratified fine	CL-ML, CL,	  A-2, A-4	0	0	100	100	  80-90	20-60	15-35	3-10
į		i	sand to loamy	SC, SC-SM,	İ	i	i	i	i	i	i	i	i
ĺ		ĺ	fine sand to	SM	ĺ	İ	ĺ	ĺ	ĺ	ĺ	İ	İ	ĺ
I			fine sandy										
		!	loam, sandy			!	!	ļ	!	!	ļ	!	!
!			loam, loamy			!			!		!	!	
 		l I	sand	l I	l I		l I	l I	l I	l I	 		l I
Coland,		i İ	l I	! 	! [	1	i i	İ	i	i i	i	¦	! 
occasionally		i		İ	İ	i	i	İ	i	i	i	i	i
flooded	10	0-25	Silty clay loam	CL	A-6, A-7	j 0	0	100	100	95-100	65-80	35-50	15-25
ĺ		25-54	Loam, silty	CL	A-6, A-7	0	0	100	100	95-100	65-80	35-50	15-25
I			clay loam										
		54-60	Loam, sandy	SC-SM, SC,	A-4, A-6	0	0	100	90-100	60-70	40-60	20-40	5-15
!			loam, sandy	CL-ML, CL		!			ļ			!	
!		 	clay loam	l I	l i	!	 			 			 
Minneopa, rarely		! 	 	 	 		l İ	i i	i i	l İ	! 		 
flooded	5	0-15	Sandy loam	SC-SM, SM	A-2, A-4	0	0	100	  85-100	  60-70	30-40	15-30	2-10
į		15-20	Sandy loam,	SM, SC-SM	A-2, A-4	j 0	0	80-100	80-100	30-70	30-40	15-30	2-10
			loamy sand,										
ļ			coarse sandy			1						[	
			loam			!							!
ļ		20-60	Loamy sand,		A-1, A-2, A-3	0	0	80-100	80-100	25-75	5-15	10-20	NP
ļ		 	sand, gravelly coarse sand	l I	l I		 	 	 	 	 		 
¦		! 	Coarse sand	 	 	1	! !		! !	! !	i	¦	! !
L115A:		i	i	İ	İ	i	i	i	i	i	i	i	i
Brownton	55	0-22	Silty clay loam	CH, MH	  A-7	0	0	100	95-100	90-100	85-95	50-65	20-35
į		22-38	Silty clay,	CH, MH	A-7	j 0	0	100	95-100	90-100	85-95	50-80	25-40
I			clay, silty										
!			clay loam	<u> </u>									
ļ		38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
I		I		l	l		l			l			l

Table 14.--Engineering Index Properties--Continued

   Map symbol	Pct.	   Depth	USDA texture	Classi: 	fication	Fragi	nents	•	rcentage sieve nu	_	_	  Liquid	   Plas-
and	of map	i				>10	3-10	i					ticity
component name	unit	i	i	Unified	AASHTO		inches	————   4	10	l 40	1 200		index
		In	İ			Pct	Pct	<u>                                     </u>				Pct	
L115A:		 	 	 		l I		 	 	 	 	 	 
Lura	35	0-10	Silty clay	CH	A-7	0	0	100	100	95-100	90-100	50-75	25-45
İ		10-58	Silty clay,	CH	A-7	0	0	100 	100 	95-100	90-100	50-75 	25-45
 		58-72   	Silty clay,   silty clay   loam, clay	CH, CL   	A-7   	0   	0   	100   	100   	95-100   	90-100   	40-75   	15-45   
  Marna	10	   0-20	  Silty clay loam	  СН	  A-7	0	0	  95-100	  90-100	  90-100	  85-95	  45-75	  15-45
 		20-32   	Clay, silty   clay, silty   clay loam	СH   	A-7   	0   	0   	95-100   	90-100   	90-100   	85-95   	50-80   	20-45   
i !		32-41   	Silty clay   loam, clay   loam	  CT	A-6 	0   	0	  90-100   	  90-100   	  85-95   	  65-90   	40-50   	20-30   
į		   41-60 	Clay loam, loam	  cr	A-6 	0-1 	0-2	  95-100 	  90-98 	  75-90 	  50-75 	  30-40 	  12-20 
L116A:			İ							İ	İ	İ	
Le Sueur	45	•		CL, ML	A-7, A-6	0		95-100	•	•	•		•
 		17-37   	Clay loam,   loam, silty   clay loam	  -  CT	A-6, A-7   	0   	0   	95-100   	95-100   	85-100   	60-80   	35-50   	15-25   
		37-46	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
I		46-80 	Clay loam, loam	  CT	A-6 	0-1 	0-2	95-100 	90-98 	75-90 	50-75 	30-40 	12-20 
Lerdal	40	0-8	Clay loam	CL	A-6, A-7	0	0	  95-100	90-100	  80-95	  60-90	  35-50	10-22
		8-12	Clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-95	60-90	35-50	10-22
 		12-41   		CL, ML, CH, MH	A-7 	0   	0   	95-100   	90-100   	80-95   	70-90   	45-70   	20-35
į		41-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100 	90-98 	75–90 	50-75 	30-40 	12-20
Mazaska	10	0-15	Silty clay loam	CL, CH	A-7, A-6	0	0	  95-100	  95-100	  85-100	  70-95	  35-55	12-28
		15-42 	Clay, silty   clay loam	CH, CL	A-7 	0 	0 	90-100 	85-100 	75-95 	60-90 	40-65 	15-35 
		42-80 	Clay loam, loam	  CT	A-6 	0-1	0-2	95-100 	90-98 	75-90 	50-75 	30-40 	12-20 
Kilkenny	5	0-11	Clay loam	ML, CL	A-6, A-7	j o	0	95-100	95-100	80-95	70-85	35-50	10-25
   		11-35   	Clay loam, clay, silty clay loam	CH, MH   	A-7   	0   	0   	95-100   	90-100   	80-95   	65-80   	50-70   	25-35   
l I		35-80 	Clay loam, loam	CT	A-6	0-1	0-2	95-100 	90-98 	75-90 	50-75 	30-40 	12-20

Map symbol	Pct.	   Depth	USDA texture	Classif: 	ication	Fragi	ments	•	rcentage sieve nu	_	ng	  Liquid	   Plas
and	of map	201011			I	>10	3-10	;				limit	
component name	unit	l I	 	   Unified	I I AASHTO		inches	   4	l 10	l 40	1 200	I	index
Component name	unit	L	l		AASHIO			<del>"</del>	1 10	<del></del> _	1 200	L 5-1	Imaex
ļ		In	 	l i	 	Pct	Pct	 	 			Pct	!
T11EG0		 		l I		- !				l			!
L117C2:	65		 						100.00				
Omsrud, eroded	65	0-9		-	A-6	0						30-35	
			Loam, clay loam		A-6	0						32-39	
		•	Clay loam, loam	•	A-6	0-1						30-40	
		36-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Omsrud	15	   0-12	  T.oam	  CL	  A-6	   0	   0-2	   95_100	  an_as	  85_95	  55-75	  30-35	  11_15
	13		Loam, clay loam		A-6	1 0						32-39	
I			Clay loam, loam		A-6	0-1						30-40	
ļ		•		•	A-6  A-6	0-1   0-1						30-40	
l		32-60 	Clay loam, loam	I CT	A-6 	1 0-1	U-Z 	  32-T00	90-98 	/5-90 	50 <b>-</b> / 5	30-40 	112-20
Terril	10	l l 0-27	  Loam	l CL	I   A-6	l l 0	I I 0-2	I   95-100	  95-100	l   70-90	1 160-80	130-40	110-20
			Loam, clay loam		A-6	1 0			90-100				5-20
			Clay loam, loam	•	A-6	1 0			90-100				5-20
I I		•	Clay loam, loam		A	0-1						30-40	
		03 00 	cray rount, rount	C-1	I	0 -	0 2	33 ±00	50 50		1	1	1 20
Delft	5	l l 0-37	  Loam	I CL	  A-6, A-7	0	l I 0	ı   95-100	  90-100	l   75-90	1 160-80	30-45	110-20
			Clay loam, silt	-	A-6	1 0			90-100				12-20
		0, 00 	loam	i	V 	"	i v				1	1	
		I I 50-60	Clay loam, loam	I I ст.	ı   А-б	0-1	l   0-2	I   95-100	  90-98	l   75-90	  50-75	130-40	12-20
		30 00 	cray rount, rount	C_	I	0 -	1 0 2	33 ±00	1		1	1	1 20
Storden, eroded	5	l l 0-7	  Loam	I CL	ı   А-б	0	l l 0-5	  95-100	  95-98	l   75-95	  60-75	28-36	   9-15
	_		Clay loam, loam	let.	A-6	0-1			90-98				12-20
ľ			Clay loam, loam		A-6	0-1						30-40	
		55 55 		<del> </del>	V 	" -	, v <u>-</u>						
L118A:		! 	i İ	! 	! I	i	i	! 			i	i	i
Rushriver,		! 	İ	i I	i I	i	i	i	i		i	i	i
frequently		l I	i i	! 	! 	i	i İ	! 	! !		i	i	ŀ
flooded	85	I I ∩_41	  Stratified	I SC-SM, SM	   A-4	0	I I 0	I   95_100	I   75-90	  45-75	  30_45	0-28	INTD_Q
1100060	05	0-11 	sandy loam to	l PC-DM, DM	<del></del>	"	ı °	33-100 	75-50 	<del>1</del> 5-75	1	1 0-20	I ME - J
l I		l I	fine sandy	l I	I I	-	l I	l I	i	l I	!		
l I		l I	l loam	l I	l I	-	l I	l I	 	l I	i	1	¦
l I		   41_90	Stratified fine	ן  פכר=מא מא מם	   ג 1 ג−2	l l 0	I I 0-2	   05_100	  90-100	   40_80	l l 4-60	1 10-20	  MD_5
l I		   41-00	sand to loamy	BC-BM, BM, BF	A-3, A-4	"	U-Z	1	1 20-100	<del>1</del> 0-00	1 4-00	1	INE-2
I		l I	very fine sand	l I	A-3, A-4		l I	 	 		 	1	
I		l I	to silt loam	 	l I	l I	l I	l I	 	l I	 		l I
I		I 	CO SIIC IOAM	 	I 		I I	! 	 			1	
Houghton,		l İ	i I	 	! 	i	İ	i		i		i	
frequently		İ	i	i İ	i İ	i	i	i	i	i	i	i	i
flooded	5	I I 0-60	I Muck	l   PT	I   A-8	1 0	I I 0	' 			i		¦
1100060	5	1 0-00	Indox	1	1 5	1 0		!			I	1	

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Classif 	ication	Fragi	ments	•	_	e passi: umber	_	  Liquid	   Plas-
and	of map	i -	İ		1	>10	3-10	İ				limit	
component name	unit	į .	<u> </u>	Unified	AASHTO	inches	inches	4	10	40	200	İ	index
		In	!	!	!	Pct	Pct					Pct	ļ
L118A:		 		 		l I	 	 	 	 	 		 
Klossner,		İ	Ì	ĺ	İ	İ	ĺ	İ	İ	İ	İ	İ	İ
frequently		İ	Ì	ĺ	İ	j	ĺ	İ	İ	İ	ĺ	İ	ĺ
flooded	5	0-22	Muck	PT	A-8	0	0						i
İ		22-45	Mucky silt	OL	A-6	0	0	100	95-100	90-100	85-95	40-49	10-30
İ		İ	loam, mucky	ĺ	İ	İ	ĺ	İ	İ	İ	İ	İ	İ
İ		İ	silty clay	ĺ	İ	İ	ĺ	İ	İ	İ	İ	İ	ĺ
į		İ	loam	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
į		45-60	Silt loam,	CL	A-6, A-7	j 0	0-5	90-100	85-100	60-100	55-90	40-48	10-25
į		İ	loam, silty	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
į		į	clay loam	į	į	į	į	į	į	į	į	į	į
  Medo, frequently		 		 	1	l I	 	 	 	 	 	1	 
flooded	5	0-25	Muck	PT	A-8	i		i	i	i	i	i	
			Sandy clay	MH, CL	A-6, A-7	i o	i o	85-100	75-100	55-95	45-85	35-65	7-35
i		i .	loam, mucky	i		i	i	i	i	i	i	i	i
i		i	silt loam,	i	İ	i	i	i	i	i	i	i	i
i		i	silt loam	i	İ	i	i	i	i	i	i	i	i
i		31-45	Silt loam,	CL, MH	A-6, A-7	i o	i o	85-100	75-100	55-95	45-85	35-65	7-35
i		i	mucky loam,	i	į ·	i	i	i	i	i	i	i	i
i		i	mucky silt	i	i	i	i	i	i	i	i	i	i
i		i	loam	i	i	i	i	i	i	i	i	i	i
i		45-80	Gravelly coarse	SP. SP-SM. SM	A-1, A-2,	0-2	l   0-5	75-95	60-95	20-75	2-40	15-25	NP-7
i			sand, gravelly		A-3, A-4	-							
i		i	loamy coarse	i	,	i	i	i	i	i	i	i	i
i		i	sand, fine	i	i	i	i	i	i	i	i	i	i
į		İ	sand	İ	İ	i	i	i	i	i	i	i	i
L119B:							 				 		 
Angus	80	0-8	Loam	CL	  A-6	0	l l 0-5	95-100	90-100	  80-95	  50-85	30-40	  11-15
			Clay loam, loam	1 -	A-6	0-1					,	35-40	
i		•	Loam, clay loam	•	A-6	0-1					,	32-39	
i			Clay loam, loam	1	A-6	0-1		•		•		30-40	
į		j	İ	İ	į	İ	j	į	į	į	İ	İ	į
Angus, eroded	10	0-8	Clay loam	CL	A-6	0		•		•		30-40	
		•	Clay loam, loam	•	A-6	0-1		•		•		35-40	
ļ		40-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
  Cordova	5	0-18	  Clay loam	  MH, ML, CL,	  A-6, A-7	0	   0	  95-100	ı  95−100	  90-100	  70-85	  40-60	  15-25
į		İ	İ	ОН	İ	İ	İ	İ	İ	İ	İ	İ	İ
I		18-38	Silty clay	CL	A-6	0	0	90-100	90-100	85-95	65-90	40-50	20-30
I			loam, clay	[								1	
I			loam	[								1	
I		38-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
I													

   Map symbol	Pct.	   Depth	USDA texture	c 	lassif	icati	on	Fragi	ments	•	rcentage sieve n	_	_	  Liquid	   Plas
and	of map					ı		>10	3-10	i '				limit	
component name	unit	i	i	'   Unif	ied	i ad	ASHTO		inches	————   4	l 10	l 40	1 200	i	index
		In	!					Pct	Pct					Pct	
 L119B:		 	 	 		 		 	 	 	 	 	 	 	 
Le Sueur	5	0-17	Clay loam	CL, ML		A-7,	A-6	0	0	95-100	95-100	90-100	75-90	35-50	10-25
 		17-37   	Clay loam,   loam, silty   clay loam	   		A-6,   	A-7	0   	0   	95-100   	95-100   	85-100   	60-80   	35-50   	15-25   
į		37-46	Clay loam, loam	CL		A-6		0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
į		46-80	Clay loam, loam	CT		A-6		0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L120A:			ļ												
Good Thunder	80	•	Silty clay loam				A-7-6	0	0	100	•	90-100	•	•	
 		15-32   	Silty clay,   silty clay   loam	CH, MH   		A-7   		0   	0   	100   	100   	90-100   	85-100   	45-75   	20-40   
i I I		32-80   	Silt loam,   silty clay   loam	CL, CL-	ML, ML	A-4,   	A-6, A-7	0   	0   	100   	100   	  95-100   	  85-100   	25-50     	5-20
Ocheyedan	10	   0-10	  Loam	l CL		I   A-6		I I 0	I I 0	l   100	l l 100	l   75-90	l  65-80	  30-40	  10-15
 		10-30     		SC-SM, CL, CI		A-4,     	A-6	0     	       	100     	100     	60-80   	35-55     	25-40     	5-15     
 		30-60	Stratified loam   to silt loam,   sandy clay   loam, silt   loam	CL, CL-       	ML	A-4,       	A-6	0       	0         	100         	100       	85-95       	50-90       	25-40         	5-15       
Minnetonka	10	l   0-13	Silty clay loam	і Іст. мн		  A-6		   0	l I 0	I   95-100	  95-100	I 190-98	I 185-95	  40-55	115-20
     		•		CH, CL		A-7   		0   0 			95-100   	•		•	
 		35-60     	Silty clay   loam, silt   loam, clay   loam	CL, ML,     	МН	A-6,       	A-7	0       	0       	  95-100     	85-100       	75-100     	60-95       	30-55       	10-25       
L121B:		İ	i			i									
Clarion	80	•		CL-ML,		A-4,		0	•	•	95-100	•	•	•	5-15
				CL-ML,		A-6,	A-4	0			85-100				5-15
		37-80	Clay loam, loam	CL		A-6		0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

   Map symbol	Pct.	   Depth	USDA texture	Classif	ication	Fragi	ments	•	rcentage sieve n	_	ng	  Liquid	   Plas
and	of map					>10	3-10	i				limit	
component name	unit	i	İ	Unified	AASHTO	inches	inches	4	10	40	200	i	index
		In	!		İ	Pct	Pct				İ	Pct	
 L121B:		 		 	 	 	 	 	 	 	 	 	 
Guckeen	15	0-15	Silty clay loam	CH	A-7	j 0	0	100	95-100	95-100	80-95	40-55	15-25
j		15-24	Silty clay,	Сн	A-7	0	0	100	95-100	95-100	80-95	40-65	15-30
į		ĺ	silty clay	İ	İ	į		ĺ	ĺ	ĺ	ĺ	į	İ
ļ			loam, clay										
ļ			Clay loam, loam	•	A-6, A-7							30-50	
		30-60 	Clay loam, loam	I CT	A-6 	0-1 	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20 
Marna	5	0-20	Silty clay loam	CH	  A-7	0	0	95 <b>-</b> 100	90-100	90-100	85-95	45-75	15-45
I		20-32	Clay, silty	CH	A-7	0	0	95-100	90-100	90-100	85-95	50-80	20-45
			clay, silty										
			clay loam										
!		32-41	1	CL	A-6	0	0	90-100	90-100	85-95	65-90	40-50	20-30
ļ			loam, clay										
		   41-60	loam  Clay loam, loam	  CL	  A-6	   0-1	   0-2	  95-100	  90-98	  75-90	  50-75	  30-40	  12-20
į		į		į	į	į	į	į	į	į	į	į	į
L122B:					!			!			!	!	!
Reedslake	55	0-12	'		A-6	0		95-100	•	•			5-15
!		•	Clay loam, loam	•	A-6, A-7	0	•	•	•	•		32-45	
ļ			Clay loam, loam	•	A-6	0-1	•	•	•	•		30-40	
		48-80 	Clay loam, loam	I CT	A-6 	0-1 	0-2 	95-100 	90-98 	75-90 	50-75 	30-40	12-20 
Estherville	25	0-13	Sandy loam	SM, SC-SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	20-30	2-10
I		13-18	Sandy loam,	SC-SM, SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	2-8
			loam, coarse		[								
I			sandy loam										
		18-23		SP-SM, SP, SM	A-2	0	0-10	55-90	50-85	10-40	2-25	0-14	NP
		!	gravelly		!	ļ		!	!	!	!	ļ	ļ
!		!	coarse sand,					!	ļ	ļ	ļ	!	ļ
ļ			loamy coarse										
!			sand	lar an									
		23-60	1	! ' ' '	A-1	0	0-10	55-90	50-85	10-40	2-25	0-14	NP
}		 	gravelly coarse sand,	SP-SM, SP	 	 	l I	 	l I	l I	 		
		l I	loamy coarse	l I	 	l I	l I	l I	l I	l I	l I	 	l I
i		İ	sand	 			! 	i		! 	 	i	! 
Le Sueur	10		  Class loam	   CT MT	7 7 7 6								110 25
Le sueur	10	•		•	A-7, A-6	0   0	•	•	•	•		35-50	
		1/-37 	Clay loam,	I I CT	A-6, A-7	1	ı U	   22-T00	   30-T00	  02-T00	100-00	35-50	±5-25
l I		I I	clay loam	I I	I I		l I	! !	l I	l I	 		
 		I   37-46	Clay loam, loam	I I ст.	  A-6	   0-1	l l 0-2	I   95_100	I   90-98	1   75-90	I   50-75	  30-40	  12-20
l I		•	Clay loam, loam	•	A-6	0-1						30-40	
			,		1 V			,0	, , , , , ,		, , , , ,	,	

Map symbol	Pct.	   Depth	USDA texture	Classif	Eication	Fragi	ments	•	rcentag sieve n	e passi	ng	  Liquid	   Plac-
and	of map	Depth	ODDA CEACUTE	l		>10	3-10	i '	sieve ii	uniber		limit	
component name	unit	i	i i	Unified	AASHTO	!	inches	4	1 10	l 40	1 200		index
		In				Pct	Pct	<u> </u>	 	<u></u>	<u> </u>	Pct	
İ		į	į	İ	į	į	į	į	į	į	į	į	į
L122B:	_		1	ļ !									
Cordova	5	İ	İ	MH, ML, CL, OH	A-6, A-7 	0 	İ	į	İ	İ	İ	40-60 	İ
 		18-38   	Silty clay   loam, clay   loam	  -  CT	A-6   	0   	0   	90-100   	90-100   	85-95   	65-90   	40-50   	20-30   
ļ I		38-80 	Clay loam, loam	  CT	A-6	0-1 	0-2 	95-100 	90-98 	75-90 	50-75 	30-40 	12-20
Lowlein	5	0-14	Sandy loam	SM, SC-SM	  A-4	0	0	90-100	  85 <b>-1</b> 00	  60-75	  35 <b>-</b> 50	  15-20	NP-5
 		14-24   	Sandy loam,   fine sandy   loam	SM, SC-SM   	A-4   	0   	0   	90-100   	85-100   	60-90   	35-50   	15-20   	NP-5   
i ! !		24-31   	Loamy sand, sand, fine sand	SM, SP-SM   	A-2, A-3	     	i o I I	  90-100   	  85-100   	  50-75   	5-35   	0-5 	NP   
İ		31-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L123A:		 	l I	 	l I	 	 	 	 	 	 		l I
Belleville	85	l   0-11	Sandy loam	SC-SM, SM	  A-4	l I 0	i i o	1 100	ı   95–100	  60-90	I 135-50	0-25	NP-5
			Loamy sand,	SC-SM, SM,   SP-SM	A-1-b, A-2-4,   A-3, A-4		0   0 			40-85   	•		
i !		27-48   	Loam, clay loam, silty clay loam	  CT 	A-6   	   0-1 	0-2   	  95-100   	  90-98   	  80-95   	  55-90   	30-40 	  10-20   
į		48-80	Clay loam, loam	CL	A-6	   0-1	0-2	95-100	90-98 	75-90	50-75	30-40	12-20
Granby	15	0-12	Loamy fine sand	  SM	  A-2	0	0	100	100	  50-80	  15-35	0-14	NP
 		12-24   	Sand, fine   sand, loamy   sand	SM, SP-SM   	A-1, A-2, A-3   	0   	0   	100   	95-100   	45-80   	5-35   	0-14   	NP   
 		24-60     	Coarse sand,   fine sand,   loamy fine   sand	SM, SP-SM     	A-1, A-2, A-3	0     	0     	100     	95-100     	45-80     	5-35     	0-14	NP     
L124A:		 		! 		 	 	i	 	¦	 	¦	 
Glencoe mucky				l	1		I		I		l	1	
clay loam	85	0-10	Mucky clay loam	OL	A-6	j 0	j 0	100	100	95-100	90-95	35-50	15-20
I		•	Clay loam, loam	OL, ML, CL	A-6, A-7	0	0	•			•	30-50	10-20
		29-42	loam, silty	ML, CL 	A-6 	0 	0 	95-100 	90-100 	75-100 	60-90 	30-40	5-20 
 		I   42-60	clay loam  Clay loam, loam	lcr lcr	  A-6	   0-1	   0-2	  95-100	I   90-98	I   75-90	I   50-75	  30-40	  12-20
l I		42-00		<del>     </del>	1	I 0-1	U-2	122-100		, 5= 50 	30-73	120-40	-2-20

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	   USDA texture	Classif: 	ication	Fragn		•	_	e passi: umber	ng	  Liquid	
and	of map		[			>10	3-10	ļ				limit	ticity
component name	unit		<u> </u>	Unified	AASHTO	inches	inches	4	10	40	200		index
		In				Pct	Pct		ļ		ļ	Pct	
L124A:		 	 	 	 			 	l I	 	l I	 	 
Canisteo	10	0-18	Clay loam	OL, CL	  A-6	i o i	0	95-100	95-100	85-100	60-100	  40-50	15-20
			Clay loam, loam		A-6	0-1				75-90			
į			Clay loam, loam		A-6	0-1		•	•	75-90	•	•	•
		ļ	ļ			!!!		ļ	ļ	ļ	ļ	l	ļ
Glencoe clay	_												
loam	5	•			A-6, A-7	0				75-100			
ļ		10-35		CL, OL, ML	A-6, A-7	0	0	95-100	90-100	75-100	60-90	30-50	10-20
ļ			loam, clay	l I	l I				 	ļ	 	l I	
		25 40	loam, loam	CL, ML	  A-6	1 0	0	   05 100	   00 100	  75-100	   60 00		   5-20
		33-40	loam, clay	CL, ML	A-0 	0	. 0	193-100	   30-100	1/3-100	60-90 	30 <b>-</b> 40	3-20 
· ·		I I	clay loam	 	 			I I	l I	i i	l I	l I	I I
 		l   48-60	Clay loam, loam	l Ct.	  A-6	0-1	0-2	  95-100	I   90-98	  75-90	I   50-75	l   30-40	  12-20
i		20 00		<del>  -</del> 	v 	-							
L125A:		İ	İ	İ		i i		i	İ	i	İ	İ	i
Hanlon, rarely													
flooded	60	0-24	Fine sandy loam	SM, SC, SC-SM	A-4	0	0	100	100	75-80	35-50	25-35	5-10
		24-52	Fine sandy	SM, SC, SC-SM	A-4	0	0	100	100	75-80	35-50	25-35	5-10
ļ		ļ	loam, sandy										ļ
ļ		ļ	loam										ļ
		52-57	Sandy loam,	SC, SC-SM, SM	A-2, A-4	0	0	100	100	75-80	25-40	20-35	5-10
		!	fine sandy			!!!		!		!			!
ļ		ļ	loam, loamy			!!!		ļ	ļ	ļ	ļ		ļ
ļ			fine sand										
ļ		57-80	Stratified fine	•	A-2, A-4	0	0	100	100	80-90	20-60	15-35	3-10
ļ			sand to loamy	SC, SC-SM,		!!!				!			
ļ			fine sand to	SM								 	
ļ			fine sandy	 	 				 		 	l I	
ļ			loam, sandy	 	 				 		 	 	
		 	loam, loamy	l i	İ			 	l I		l I	l I	 
		 	Sano	 	 			 	l I	l I	l I	l I	 
Coland,		! 	! 	 	 		 	i	l I	i	l I	l I	i
occasionally		i	i	 		i i		i	i	i	i	i	i
flooded	25	0-25	Silty clay loam	CL	  A-6, A-7	0	0	100	100	95-100	65-80	35-50	15-25
			Loam, silty	•	A-6, A-7	0	0	100	100	•	65-80		
į		i	clay loam	İ	İ	i i		i	į	i	i	İ	i
į		54-60	Loam, sandy	CL-ML, SC-SM,	A-4, A-6	i o i	0	100	90-100	60-70	40-60	20-40	5-15
i		i	loam, sandy	SC, CL		į i		i	İ	i	İ	İ	i
į		İ	clay loam		İ	į i		i	İ	İ	İ	İ	i
į		İ	İ			i i		İ	İ	İ	İ	İ	İ

   Map symbol	Pct.	Depth	USDA texture	Classif	ication	Fragi	ments		rcentage sieve n	e passi: mber	ng	  Liquid	   Plas
and	of map	Depen	ODDIT CONCUTO		I	>10	3-10	Ι.	31010 11	aniber .		limit	
component name	unit		İ	Unified	AASHTO		inches	4	10	40	200		index
		In	İ			Pct	Pct					Pct	
 L125A:		 	 	 	 		 	 	 	 	 	 	 
Minneopa, rarely			İ	i	i		i		i	i	İ	i	i
flooded	15	0-15	Sandy loam	SC-SM, SM	A-2, A-4	0	0	100	  85-100	60-70	  30-40	15-30	2-10
				SM, SC-SM   	A-2, A-4   	0	   0   			30-70   			2-10   
   		20-60	Loamy sand,   sand, gravelly   coarse sand	  SM, SP-SM   	  A-1, A-2, A-3   	0	     	80-100   	  80-100   	  25-75   	   5-15   	  10-20   	NP     
L126A:   Coland,			 	 			   		   			   	 
occasionally   flooded	80	0 25	  Silty clay loam	l at	  A-6, A-7	l l 0	l I 0	   100	   100	   0E 100	   65 00	  35-50	  1= 2=
1100ded	80		Loam, silty	CL	A-6, A-7	0   0	l 0	100				35-50	
l I		25-54 	clay loam	I	K-0, K-7	"	ı °	±00 	100 	JJ-100	05-00 	33-30 	15-25 
   		54-60		  CL-ML, SC-SM,   SC, CL 	  A-4, A-6   	0	   0 	100 	  90-100   	  60-70   	  40-60 	20-40   	   5-15   
Minneopa,   occasionally		   	   	   	   		   	   	   	   	   	   	   
flooded	10	0-15	Sandy loam	SC-SM, SM	A-2, A-4	0	0	100	85-100	60-70	30-40	15-30	2-10
     		15-20   	Sandy loam, loamy sand, coarse sandy loam	sm, sc-sm     	A-2, A-4     	0	0     	80-100   	80-100     	30-70   	30-40   	15-30     	2-10     
     		20-60   	Loamy sand,   sand, gravelly   coarse sand	SM, SP-SM     	A-1, A-2, A-3   	0   	0     	80-100   	80-100     	25-75     	5-15     	10-20     	NP     
Havelock,			į	į	į		į		į	İ	İ	į	į
occasionally   flooded	5	0-53 	  Clay loam	CH, CL	  A-6	l l 0	l I 0	   100	   100	   95_100	  65-85	  38-55	20-30 
	3			CH, CL   	A-6   	0	0   0 	100	•			38-55   	
         		35-60	Stratified loam to silt loam to clay loam, sandy loam, sandy clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6           	0	0         	100	  90-100         	  60-70     	40-60       	20-40	5-20       

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

   Map symbol	Pct.	Depth	USDA texture	Classif: 	ication	Fragi 	ments	•	rcentage sieve n	_	ng	  Liquid	   Plas
and	of map			<del></del>		>10	3-10	i '				limit	
component name	unit	i	İ	Unified	AASHTO	inches	inches	4	10	40	200	i	index
		In	İ.	İ	İ	Pct	Pct	İ	İ	İ	İ	Pct	į
L126A:				 	 	 	 	 	 	 	 	 	 
Spillville,		İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
occasionally			Ì	ĺ	ĺ	ĺ	ĺ	İ	ĺ	ĺ	ĺ	İ	ĺ
flooded	5	0-51	Loam	CL	A-6	0	0	100	95-100	85-95	60-80	25-40	10-20
 		51-60   	Sandy clay   loam, loam,   sandy loam	SC, CL,   CL-ML, SC-SM   	A-4, A-6   	0     	0     	100     	95-100     	80-90     	35-75     	20-40     	5-15     
L127A:				İ	İ	i	i	i	i	i	i	i	i
Coland, frequently		i I	j I	   	 	i I	i I	i I	 	i I	 	i I	i I
flooded	80	0-12	Silty clay loam	CL	A-6, A-7	,   0	,   0	100	100	95-100	65-80	35-50	15-25
j		12-30	Loam	CL	A-6, A-7	0	0	100	100	95-100	65-80	35-50	15-25
 		30-55   	Stratified fine   sandy loam to   loam, silty	sc-sm   	A-6, A-4   	0   	0   	100   	100   	95-100   	65-80   	30-40   	8-25   
!			clay loam	!	!	!	!	!	ļ	!	ļ		!
		55-80   	Loam, sandy   loam, fine   sandy loam	SC-SM, SC,   CL-ML, CL 	A-4, A-6   	0   	0   	100   	90-100   	60-70   	40-60   	20-40   	5-15   
Minneopa,				 	 	 	 	 	 	 	 	 	 
occasionally					!	!	!				!		!
flooded	10		Sandy loam		A-2, A-4	0	0		85-100				2-10
   		16-29   	Sandy loam,   loamy sand,   coarse sandy   loam	SM, SC-SM     	A-2   	0     	0     	80-100     	80-100     	30-70     	15-35     	10-25     	1-4     
į		29-60	Loamy sand,	SM, SP-SM	  A-1, A-2, A-3 	0 	0 	  80-100 	  80-100 	  25-75 	5-15   	5-15	NP 
Havelock,   frequently			   	   	   	   	   	   	   	   	   	   	   
flooded	5	0-30	Silt loam	CH, CL	A-6	0	0	100	100	95-100	65-85	39-55	20-30
I			Clay loam, loam	•	A-7	0	0	100		95-100			20-30
   		40-60     	Stratified loam   to silt loam   to clay loam,   sandy clay   loam	CL, CL-ML,   SC, SC-SM   	A-4, A-6     	0     	0     	100       	90-100     	60-70     	40-60     	20-40       	5-15       

Map symbol	Pct.	   Depth	USDA texture	Classif	ication	Fragi 	ments	•	rcentage sieve n	_	-	  Liquid	   Plas
and	of map	į	į		ļ	1	3-10	İ				limit	
component name	unit	   <del></del>		Unified	AASHTO		inches	4	10	40	200	L D-1	index
l		In 	l I	 	 	Pct	Pct 	l I	 	 	l I	Pct 	 
L127A:		İ	İ	İ	İ	i	İ	İ	i	į	İ	i	İ
Spillville,													
occasionally													
flooded	5	0-51	•		A-6	0	0		95-100				
		51-60			A-4, A-6	0	0	100	95-100	80-90	35-75	20-40	5-15
			loam, loam,	CL-ML, SC-SM			ļ	ļ	ļ	!		ļ	ļ
		 	sandy loam	 				  -		 	l I		
L128A:		l I	İ	! 	! 		! 	! 	i i	i İ	l I	İ	 
Mazaska	60	0-15	Silty clay loam	CL, CH	A-6, A-7	j 0	j 0	95-100	95-100	85-100	70-95	35-55	12-28
į		15-42	Clay, silty	CH, CL	A-7	0	0	90-100	85-100	75-95	60-90	40-65	15-35
			clay loam		l								
ļ		42-80	Clay loam, loam	CT	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
  Rolfe	30	   0-12	  Silt loam	OL, ML, CL	  A-4, A-6	   0	   0	   100	  95-100	  90-100	  80-95	  30-40	   5-15
	30		Silt loam, clay		A-6, A-4	1 0	I 0	•	95-100				5 ±5   5-35
İ			loam										
j		20-35	Silty clay	СН	A-7	0	0	100	95-100	90-100	90-100	50-65	25-35
		35-51	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	80-90	55-75	30-45	10-20
		51-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
   Lerdal	10	l l 0-8	  Clay loam	  CL	  A-6, A-7	l l 0	l I 0	  95-100	  90-100	  80-95	l   60-90	  35-50	  10-22
			: - T	•	A-6, A-7	0			90-100				10-22
				CL, ML, CH,	A-7	j o		•	90-100				20-35
į		į	loam, clay	мн	İ	i	İ	İ	İ	į	İ	į	İ
į		ĺ	loam	ĺ	ĺ	j	ĺ	ĺ	ĺ	ĺ	ĺ	İ	ĺ
		41-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
					<u> </u>	ļ							ļ
L129B:   Terril	90	   0-27	  Toom	lсь	  A-6	   0	   0-2	   05 100	  95-100	   70 00	   <i>e</i>		  10 20
lettii	30	•	Loam, clay loam		A-6  A-6	1 0	•	•	90-100		•	'	10-20   5-20
l I			Clay loam, loam	•	A-6	1 0		•	90-100			20-40	5-20
i			Clay loam, loam		A-6	0-1	•	•	90-98		•	'	
İ				İ	İ	i	i		İ	İ		İ	i
Delft	5	0-37	Loam	CL	A-6, A-7	0	0	95-100	90-100	75-90	60-80	30-45	10-20
		37-50	Clay loam, silt	CL	A-6	0	0	95-100	90-100	70-90	50-75	30-40	12-20
			loam										
		50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100 	90-98	75-90 	50-75 	30-40	12-20
  Hamel	5	   0-24	Loam	CL, ML	  A-4, A-6	0	   0	1 100	  95-100	  85-100	ı  60-85	30-40	   5-20
į		24-46	•		A-6	0	0		95-100				25-35
į		İ	loam, silty	İ	İ	ĺ	İ	ĺ	İ	İ	ĺ	İ	İ
j		l	clay loam	l	l	İ	I	l		l	l		I
i		46-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 14.--Engineering Index Properties--Continued

Table 14.--Engineering Index Properties--Continued

Map symbol	Pct.	   Depth	USDA texture	Cla	assificatio	on	Fragi	ments	•	rcentage	_	ng	  Liquid	   Plas-
and	of map						>10	3-10					limit	
component name	unit	<u> </u>	İ	Unifi	ed   A	ASHTO	inches	inches	4	10	40	200	İ	index
ļ.		In	ļ	l	ļ		Pct	Pct	1			[	Pct	I
L130A:		 	Ī	 	ļ			 	 	 	 	 	 	 
Okoboji mucky		i		i	i		i	i	i	! !	<u> </u>	i	i	i
silty clay loam	75	0-13	Mucky silty	l OL	  A-6		0	0	100	1 100	  95-100	  90-95	  38-60	  15-25
			clay loam	i			i •	i						
į		13-35	Silty clay	CH	  A-7		i 0	i o	100	100	  90-100	80-95	50-60	30-35
i		i	loam, silty	İ	i		İ	i	İ	į	į	i	i	i
j		į	clay	j	į		į	İ	į	İ	İ	į	İ	İ
İ		35-60	Silty clay	CL	A-6		0	0	95-100	95-100	90-100	80-95	35-48	30-35
I			loam, silty		I									
			clay		I									
Okoboji silty				  -	ļ									 
clay loam	15	l   0-26	  Silty clay loam	l CH	  A-7		1 0	l   0	1 100	   100	I   90-100	l  80-95	  50-60	I   30-35
		•		CL, CH	  A-7		0	0	100				48-60	
į		i	loam, silty	i	i		i	i	i	i	i	i	i	i
i		İ	clay	İ	į		İ	İ	İ	İ	į	İ	İ	į
İ		42-60	Silty clay loam	CH, CL	A-6		0	0	95-100	95-100	90-100	80-95	38-60	30-35
P	_													
Brownton	5	•	Silty clay loam  Silty clay,	CH, MH	A-7  A-7		0   0	0   0	•	95-100  95-100				
		22-36	clay, silty	CH, MH	A-/		0	0	1 100	  32-T00	1   30-100	05-95 	120-80	25-40 
· ·		I I	clay loam	¦	-			I I	i i	l I	l I	 	I I	l I
 		l   38-60	Clay loam, loam	I I Ст.	  A-6		0-1	l   0-2	95-100	I   90-98	I   75-90	  50-75	I   30-40	  12-20
i				 			i	i						
Spicer	5	0-16	Silty clay loam	CL	A-6,	A-7	j 0	j o	100	100	95-100	90-100	35-50	10-25
I		16-40	Silt loam,	CL	A-6,	A-7	0	0	100	100	95-100	85-100	35-50	10-25
I			silty clay		I									
			loam		l									
ļ		40-60		CL	A-4,	A-6	0	0	100	100	95-100	85-100	30-40	5-20
		!	silty clay	!	ļ.		!	!	ļ	!	!	ļ	!	!
ļ			loam		!		!	!				!	!	
M-W.		 	1	l I				l I	 	 	l I	l I	l I	l I
Water,		<u> </u>		' 	i		i	i	i	i	i	i	i	i
miscellaneous		i	i	İ	i		i	i	i	i	i	i	i	i
		i	i	İ	i		i	i	i	į	į	i	i	į
U3B.		İ	İ	İ	į		İ	İ	İ	İ	İ	İ	İ	İ
Udorthents (cut					į			I					1	
and fill land)		ļ	ļ	ļ	ļ		ļ	ļ	ļ	ļ	ļ	ļ	ļ	
w.		 	 	 	l			l I	I I	 	 	I I	 	 
Water		! 		! 	i			i	i	<u> </u>	İ	i	i	i i
-		i	i	İ	i		i	i	i	i	i	i	i	i

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

Map symbol and	Pct. of	Depth	   Clay	   Moist	   Saturated	  Available	   Linear	   Organic	Erosio	on fact	ors	Wind  erodi-	Wind  erodi
component name	map unit		İ	bulk	hydraulic	water	extensi-	matter	İ	I		bility	bilit
- i	i - i		i	density	conductivity	capacity	bility	i	Kw	К£	т	group	index
ļ		In	Pct	g/cc	um/sec	In/in	Pct	Pct					
GP:			 		 	 	 	 		 		 	 
Pits, gravel.			 		 		 	 		 		 	 
Udipsamments.	į		İ		'   	į	   	i I	į	İ		į	į
L5A:			 		 		 	 		 		 	 
Delft, overwash	50	0-12	20-27	1.40-1.65	1.00-4.00	0.18-0.20	3.0-5.9	3.0-5.0	.24	.24	5	6	48
J		12-37	20-30	1.40-1.65	1.00-4.00	0.18-0.20	3.0-5.9	4.0-8.0	.24	.24			
J		37-47			4.00-14.00	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32			
		47-80	20-30	1.35-1.55 	4.00-14.00 	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37 		 	 
Delft	40	0-37	25-35	  1.40-1.65	1.00-4.00	0.18-0.20	3.0-5.9	4.0-8.0	.24	.24	5	6	48
J		37-50	20-32	1.30-1.40	4.00-14.00	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32			
ļ		50-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Glencoe	5	0-10	27-35	  1.35-1.45	   1.00-14.00	0.18-0.22	   3.0-5.9	   5.0-10	.28	.28	5	6	48
J		10-35	25-35	1.35-1.45	1.00-14.00	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
J		35-48	25-35	1.35-1.50	1.00-14.00	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
ļ		48-60	20-30	1.35-1.55 	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37 		 	
Terril	5	0-27	18-26	  1.35-1.40	   4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
J		27-40	24-30	1.40-1.45	4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
J		40-63			4.23-14.11	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
ļ		63-80	20-30	1.35-1.55 	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37 		 	 
L13A:	i		i		! 	İ	İ	İ	i			İ	
Klossner, drained	80	0-26			1.41-42.34	0.35-0.48		25-60			2	2	134
J		26-36	22-35	1.10-1.25	4.23-14.11	0.22-0.26	3.0-5.9	10-20	.37	.37			
J		36-48	22-35	1.30-1.40	1.41-14.11	0.18-0.22	3.0-5.9	5.0-10	.28	.28			
		48-80	15-32 	1.35-1.50 	4.23-14.11 	0.15-0.19	3.0-5.9 	0.0-5.0	.28	.28 		 	 
Mineral soil, drained	15	0-13			4.23-14.11	0.18-0.22		5.0-10	.28	.28	5	6	48
I		13-31			1.41-14.11	0.18-0.22		2.0-5.0	.28	.28			
J		31-45			1.41-14.11	0.15-0.19		0.5-2.0	.28	.28		[	
 		45-80	15-30 	1.35-1.55 	4.23-14.11 	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37 		 	 
Houghton, drained	5	0-10			1.41-42.34	0.35-0.45		   70-99	i		3	2	134
J		10-80		0.15-0.25	1.41-42.34	0.35-0.45		70-99					

Table 15.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	   Depth	   Clay 	   Moist   bulk	   Saturated   hydraulic	  Available   water	   Linear  extensi-	   Organic   matter	Erosi	on fac			Wind  erodi-
component name	map unit	l I	l I	density	nydraulic  conductivity	capacity	bility	matter	   Kw	   Kf		group	
		In	Pct	g/cc	um/sec	In/in	Pct	Pct	Kw		-	 	
L14A:		 	 	 	 		 	 		 	 	 	 
Houghton, drained	80	0-10	i	0.15-0.25	1.41-42.34	0.35-0.45	i	70-99	i	i	3	2	134
		10-80		0.15-0.25	1.41-42.34	0.35-0.45	į	70-99	į	ļ		į	
Klossner, drained	   10	   0-26	 	  0.25-0.55	   1.41-42.34	0.35-0.48	 	   25-60		 	   2	   2	   134
I		26-36	22-35	1.10-1.25	4.23-14.11	0.22-0.26	3.0-5.9	10-20	.37	.37			
I		36-48	22-35	1.30-1.40	1.41-14.11	0.18-0.22	3.0-5.9	5.0-10	.28	.28			
		48-80	15-32	1.35-1.50	4.23-14.11	0.15-0.19	3.0-5.9	0.0-5.0	.28	.28			
Mineral soil, drained	10	0-13	   25-27	  1.35-1.45	   4.23-14.11	0.18-0.22	3.0-5.9	5.0-10	.28	.28	   5	   6	48
I		13-31	18-35	1.35-1.45	1.41-14.11	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
I		31-45	•	•	1.41-14.11	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		45-80 	15-30 	1.35-1.55 	4.23-14.11 	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37 		 	 
L15A:			į	į		į	į	į	į	į	į	į	į
Klossner, ponded	30	0-26	•	•	1.41-42.34	0.35-0.48		25-60			2	8	0
		26-33	•	•	4.23-14.11	0.22-0.26		10-20	.37	.37	!	!	ļ
!		33-40			1.41-14.11	0.18-0.22		5.0-10	.28	.28	!		
		40-80 	15-32 	1.35-1.50 	4.23-14.11 	0.15-0.19	3.0-5.9	0.0-5.0	.28	.28 	 	 	 
Okoboji, ponded	30	0-10	•	•	4.23-14.11	0.22-0.25		10-18	.32	.32	5	8	0
		10-52	•	•	1.41-4.23	0.18-0.20		4.0-8.0	.37	.37	!	!	ļ
		52-60 	35-45	1.35-1.40 	1.41-4.23 	0.18-0.20	6.0-8.9 	0.2-1.0	37	.37 	 	 	 
Glencoe, ponded	30	0-42	27-35	1.35-1.45	1.41-14.11	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	8	j o
i	j i	42-50	25-35	1.35-1.50	1.41-14.11	0.15-0.19	3.0-5.9	2.0-6.0	.28	.28	İ	İ	İ
		50-60	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	İ		
Houghton, ponded	10	   0-80	 	  0.15-0.25	   1.41-42.34	0.35-0.45		   70-99			3	   8	0
L16A:		<u> </u> 	 	 	 	 	 	 	 	l I	 	 	 
Muskego, ponded	30	0-9	i	0.10-0.21	4.23-42.34	0.35-0.45	i	60-90	i	i	1	8	i o
i	j i	9-36	i	0.10-0.21	4.23-42.34	0.35-0.45	j	60-90	j	j	i	į	İ
		36-60	18-35	0.30-1.10	0.42-1.41	0.18-0.24	3.0-5.9	6.0-20	.28	.28	į	į	į
Blue Earth, ponded	30	   0-50	   18-32	  0.20-0.80	   4.23-14.11	0.18-0.24	3.0-5.9	   10-25	.28	.28	   5	   8	0
		50-60	18-32	0.20-0.80	4.23-14.11	0.18-0.24	0.0-2.9	10-25	.28	.28			
Houghton, ponded	30	   0-80	 	  0.15-0.25	   1.41-42.34	0.35-0.45	 	   70-99		 	   3	   8	   0
Klossner, ponded	   10	   0-26	 	  0.25-0.55	   1.41-42.34	0.35-0.48	 	   25-60			   2	   8	   0
i	j	26-33	22-35	1.10-1.25	4.23-14.11	0.22-0.26	3.0-5.9	10-20	.37	.37	İ	İ	İ
i	l i	33-40	22-35	1.30-1.40	1.41-14.11	0.18-0.22	3.0-5.9	5.0-10	.28	.28			
İ	l İ	40-80	15-32	1.35-1.50	4.23-14.11	0.15-0.19	3.0-5.9	0.0-5.0	.28	.28			
i	l i		I	I		1	I	I	I	I	1	I	I

Table 15.--Physical Properties of the Soils--Continued

Map symbol and	Pct. of	Depth	   Clay	   Moist	   Saturated	  Available		   Organic	Erosi	on fact	ors	erodi-	
component name	map unit			bulk	hydraulic	water	extensi-	matter				bility	
				density	conductivity	capacity	bility		Kw	Kf	T	group	index
ļ	!	In	Pct	g/cc	um/sec	In/in	Pct	Pct	!			ļ	ļ
L26B:			l I	 	 	 	 	 		 		 	 
Shorewood	90	0-17	30-40	1.20-1.40	1.00-4.00	0.18-0.22	3.0-5.9	4.0-8.0	.28	.28	5	4	86
i	i	17-39	36-55	1.20-1.35	0.00-4.00	0.13-0.16	6.0-8.9	1.0-4.0	.32	.32		i	i
į	į	39-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		į	į
Good Thunder	5 I	0-15	   30-40	  1.20-1.40	   1.41-4.23	0.18-0.22	   3.0-5.9	4.0-7.0	1 .28	   .28	   5	   4	   86
		15-32			0.42-4.23	0.13-0.16		1.0-3.0	1.32	.32	~	i -	
İ	i	32-80			4.23-14.11	0.16-0.20		0.0-1.0	.37	.37			İ
Minnetonka	5 I	0-13	   27_35	  1 20=1 40	1.41-4.23	  0.18-0.22	3 0-5 9	4.0-8.0		   .28	   5	   7	   38
IIIII I	, j	13-35			0.42-1.41	0.13-0.19	•	0.2-1.0	.28	.28		, '	1
j	İ	35-60			1.41-14.11	0.16-0.21	•	0.0-0.2	.28	.28			İ
L36A:	ļ			 									
Hamel, overwash	50 I	0-13	   20-27	  1.30-1.40	   4.23-14.11	0.20-0.24	0.0-2.9	3.0-5.0	.28	.28	5	   6	48
İ		13-29	20-30	1.30-1.40	4.23-14.11	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28		İ	İ
İ		29-50	24-35	1.45-1.60	1.41-4.23	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28		İ	İ
	ļ	50-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
  Hamel	43	0-24	   20-27	  1.30-1.40	   4.23-14.11	0.20-0.24	   0.0-2.9	   5.0-7.0	.28	   .28	5	   6	   48
İ	i	24-46	24-35	1.45-1.60	1.41-4.23	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28		İ	İ
į	į	46-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		į	į
  Terril	5	0-27	   18-26	  1.35-1.40	   4.23-14.11	0.20-0.22	   0.0-2.9	   3.0-5.0	.24	   .24	   5	   6	   48
i	i	27-40	24-30	1.40-1.45	4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28		İ	i
İ	i	40-63	22-30	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32		İ	İ
į	į	63-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		į	į
   Glencoe	2	0-13	   25-27	  1.35-1.45	   4.23-14.11	0.18-0.22	   3.0-5.9	   5.0-10	1 .28	   .28	   5	   6	   48
i	i	13-31	25-35	1.35-1.45	1.41-14.11	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28		İ	i
i	i	31-45	25-35	1.35-1.50	1.41-14.11	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28		İ	i
į	į	45-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		į	į
L40B:			l I	 	 	 	 	 		 		 	 
Angus	45	0-8	20-27	1.30-1.40	4.23-14.11	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	5	6	48
i	i	8-35	24-35	1.45-1.55	4.23-14.11	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28		İ	İ
i	i	35-40	24-35	1.55-1.75	4.23-14.11	0.14-0.19	0.0-2.9	0.0-0.5	.37	.37		İ	İ
į	į	40-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Kilkenny	40	0-11	   27-30	  1.15-1.25	   1.41-4.23	0.17-0.19	   3.0-5.9	2.0-4.0	.28	   .28	5	   6	   48
İ	i	11-35	35-45	1.25-1.35	1.41-4.23	0.15-0.19	3.0-5.9	0.2-1.0	.28	.28		İ	İ
i	i	35-80	. 20 20	1 25 1 55	4.23-14.11	0.15-0.19	1 1 0 4 2	0.1-0.5	i .32	.37		i	i

Table 15.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	   Clay	   Moist   bulk	   Saturated   hydraulic	  Available   water	   Linear  extensi-	   Organic   matter	Erosi	on fac	tors 	Wind  erodi-  bility	
component name	map unit		l I		nydraulic  conductivity	capacity	bility	matter	   Kw	   Kf	l I Tr	group	
		In	Pct	g/cc	um/sec	In/in	Pct	Pct	ļ	ļ	<u> </u>		
L40B:			 	 	 		 	 		 	 		 
Lerdal	10	0-8			1.00-14.00	0.18-0.22		2.0-4.0	.37	.37	5	6	48
		8-12			1.00-14.00	0.18-0.22		0.2-1.5	.37	.37			
		12-41	•	•	0.00-1.00	0.13-0.19		0.2-0.8	.32	.32			
		41-80	20-30 	1.35-1.55 	4.00-14.00 	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37 	 	 	 
Mazaska	5	0-15	'	•	1.41-4.23	0.17-0.22		4.0-7.0	.28	.28	5	7	38
		15-42			0.42-1.41	0.10-0.16		0.5-2.0	.28	.28			
		42-80	20-30 	1.35-1.55 	4.23-14.11 	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37 	 	 	 
L41C2:	i			İ	İ		İ	İ			İ	i	
Lester, eroded	45	0-7			4.23-14.11	0.20-0.22		1.0-3.0	.28	.28	5	6	48
		7-38			4.23-14.11	0.15-0.19		0.5-1.0	.28	.28	ļ	ļ	ļ
		38-60			4.23-14.11	0.15-0.19		0.1-0.5	.32	.37	ļ	ļ	ļ
		60-80	20-30 	1.35-1.55 	4.23-14.11 	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37 	l I	l I	 
Kilkenny, eroded	40	0-9	'	•	1.41-4.23	0.17-0.19		1.0-3.0	.28	.28	5	6	48
		9-53			1.41-4.23	0.15-0.19		0.2-1.0	.28	.28			
		53-80	20-30 	1.35-1.55 	4.23-14.11 	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37 	 	 	 
Terril	10	0-27			4.23-14.11	0.20-0.22		3.0-5.0	.24	.24	5	6	48
		27-40			4.23-14.11	0.17-0.19		2.0-4.0	.28	.28	ļ	!	ļ
		40-63			4.23-14.11	0.16-0.18		0.0-1.0	.32	.32	ļ .	ļ	ļ
		63-80	20-30 	1.35-1.55 	4.23-14.11 	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37 	l I	l I	 
Derrynane	5	0-19			0.42-4.23	0.17-0.19		5.0-10	.28	.28	5	4	86
		19-39			0.42-4.23	0.13-0.16		5.0-10	.28	.28			
		39-65 65-80		•	1.41-4.23   4.23-14.11	0.15-0.19	•	1.0-5.0	1.32	.28   .37	 		 
		05 00	20 30						.32	•37	İ		
L41D2:				!		!	!	!	!	!	ļ	!	
Lester, eroded	45	0-7	'	•	4.23-14.11	0.20-0.22		1.0-3.0	.28	.28	5	6	48
		7-38	'	•	4.23-14.11	0.15-0.19		0.5-1.0	.28	.28	ļ	ļ	ļ
		38-60			4.23-14.11	0.15-0.19		0.1-0.5	.32	.37	!		
		60-80	20-30 	1.35-1.55 	4.23-14.11 	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37 	 	 	 
Kilkenny, eroded	35	0-9	27-30	1.15-1.25	1.41-4.23	0.17-0.19	3.0-5.9	1.0-3.0	.28	.28	5	6	48
İ	ĺ	9-53	35-45	1.25-1.35	1.41-4.23	0.15-0.19	3.0-5.9	0.2-1.0	.28	.28			
		53-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	37			
Terril	10	0-27	   18-26	  1.35-1.40	   4.23-14.11	0.20-0.22	0.0-2.9	   3.0-5.0	.24	.24	   5	   6	   48
		27-40	24-30	1.40-1.45	4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	11 35-1 55	4.23-14.11	10.15-0.19	1 1 0-4 2	0.1-0.5	1.32	.37	1	I	I

Map symbol and	   Pct. of	   Depth	   Clay	   Moist	   Saturated	  Available	   Linear	   Organic	Erosic	n fac	tors	Wind  erodi-	Wind  erodi
component name	map unit	<u> </u>	 	bulk density	hydraulic conductivity		extensi-   bility	matter 	   Kw	Kf	   T	bility  group	
		In	Pct	g/cc	um/sec	In/in	Pct	Pct					
L41D2:				 								! 	! 
Derrynane	5	0-19	30-40	1.20-1.40	0.42-4.23	0.17-0.19	6.0-8.9	5.0-10	.28	.28	5	4	86
		19-39		1.40-1.60		0.13-0.16		5.0-10	.28	.28			
		39-65			1.41-4.23	0.15-0.19		1.0-5.0	.28	.28	ļ	!	ļ
	 	65-80 	20-30 	1.35-1.55 	4.23-14.11	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37	 	 	 
Ridgeton	5	0-23	18-26	  1.35-1.40	4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		23-38		1.40-1.45		0.17-0.19		2.0-4.0	.28	.28			
		38-50		1.45-1.70		0.16-0.18		0.8-2.5	.32	.32			
		50-80 	20-30	1.35-1.55 	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			 
L41E:		 		! 	İ			<u> </u>	i i				 
Lester	45	0-5	20-27	1.30-1.40	4.23-14.11	0.20-0.22	0.0-2.9	4.0-8.0	.28	.28	5	6	48
		5-34	24-32	1.45-1.55	4.23-14.11	0.15-0.19		0.5-1.0	.28	.28			
		34-60		1.35-1.55		0.15-0.19		0.1-0.5	.32	.37			
		60-80 	20-30	1.35-1.55 	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			 
Kilkenny	40	0-7	27-30	  1.15-1.25	1.41-4.23	0.17-0.19	3.0-5.9	2.0-4.0	.28	.28	5	   6	48
İ	į į	7-31	35-45	1.25-1.35	1.41-4.23	0.15-0.19	3.0-5.9	0.2-1.0	.28	.28	ĺ	İ	İ
		31-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		ļ	
Terril	   5	   0-24	   18-26	  1.35-1.40	   4.23-14.11	0.20-0.22	   0.0-2.9	   3.0-5.0	.24	.24	   5	   6	   48
	i i	24-37	24-30	1.40-1.45	4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28	i	i	İ
	į į	37-57	22-30	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32	İ	İ	İ
		57-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	İ
Derrynane	   5	   0-20	   30-40	  1.20-1.40	0.42-4.23	0.17-0.19	   6.0-8.9	   5.0-10	1 .28	.28	   5	   4	   86
	· ·	20-40		1.40-1.60		0.13-0.16		5.0-10	.28	.28	i	i -	i
i	i	40-54		1.40-1.75		0.15-0.19		1.0-5.0	.28	.28	i	i	i
		54-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
Ridgeton	   5	   0-32	   18-26	  1.35-1.40	   4.23-14.11	0.20-0.22	   0.0-2.9	   3.0-8.0	1 .24	.24	   5	   6	   48
	· ·	32-40		1.45-1.70		0.16-0.18		0.0-1.0	.32	.32	i	i	i
	İ	40-80		1.35-1.55		0.15-0.19		0.1-0.5	.32	.37	i	į	İ
L48A:		 		 									
Derrynane, overwash	l 50 l	l   0-16	I I 30-40	  1.20-1.40	0.42-4.23	0.17-0.19	   6 0-8 9	   3.0-5.0	1 .28	.28	l I 5	   4	l   86
berryname, overwasii	30   	16-48		1.40-1.60		0.13-0.16		5.0-7.0	1 .28	.28		<del>*</del>	1
	i	48-67		1.40-1.75		0.15-0.19		3.0-5.0	1 .28	.28	i	i	i
	i	67-80		1.35-1.55		0.15-0.19		0.1-0.5	32	.37	İ	İ	İ
Derrynane	   40	   0-19	30-40	  1 20-1 40	0.42-4.23	  0.17-0.19	   6 0-9 9	   5.0-10		.28	   5	   4	   86
Derr Ymane	<del>1</del> 0	19-39			0.42-4.23	0.17-0.19		5.0-10	1 .28	.28	1 2	! <del>*</del> 	00 
		39-65		1.40-1.60  1.40-1.75		0.15-0.19		1.0-5.0	1 .28	.28			
		35-03   65-80			4.23-14.11	0.15-0.19			32	.37	i	i	i
	j						i				i	i	i

Table 15.--Physical Properties of the Soils--Continued

Table 15.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist   bulk	Saturated hydraulic	  Available   water	   Linear  extensi-	   Organic   matter	Erosi	on rac	cors 	Wind  erodi-  bility	erodi-
component name	map unit			density	_	capacity	extensi-   bility	matter	   Kw	   Kf	   T	group	
		In	Pct	g/cc	um/sec	In/in	Pct Pct	Pct	KW		-	 	
L48A:			 			 	 	 	 	 	 	 	 
Glencoe	5	0-10	27-35	1.35-1.45	1.00-14.00	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
İ	İ	10-35	25-35	1.35-1.45	1.00-14.00	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28	ĺ	ĺ	ĺ
I		35-48	25-35	1.35-1.50	1.00-14.00	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		48-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril	5	0-27	   18-26	1.35-1.40	4.23-14.11	0.20-0.22	   0.0-2.9	3.0-5.0	.24	.24	   5	   6	   48
I	l l	27-40	24-30	1.40-1.45	4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
I	l l	40-63	22-30	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		 	 
L49A:	i						! 			 		 	 
Klossner, surface													
drained	65	0-26			1.41-42.34	0.35-0.48		25-60			2	2	134
		26-33			4.23-14.11	0.22-0.26		10-20	.37	.37			
		33-40			1.41-14.11	0.18-0.22		5.0-10	.28	.28			
		40-80	15-32	1.35-1.50	4.23-14.11	0.15-0.19	3.0-5.9 	0.0-5.0 	1 .28	.28 	 	 	 
Klossner, drained	20	0-26		0.25-0.55	1.41-42.34	0.35-0.48		25-60	i		2	2	134
I		26-36			4.23-14.11	0.22-0.26		10-20	.37	.37			
		36-48			1.41-14.11	0.18-0.22		5.0-10	.28	.28			
		48-80	15-32 	1.35-1.50 	4.23-14.11	0.15-0.19	3.0-5.9 	0.0-5.0 	.28 	.28 	 	 	 
Mineral soil, drained	15	0-13	25-27	1.35-1.45	4.23-14.11	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
I		13-31	18-35	1.35-1.45	1.41-14.11	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		31-45			1.41-14.11	0.15-0.19		0.5-2.0	.28	.28			
		45-80	15-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37 	 	 	 
L50A:	i							İ	i	İ	İ	İ	İ
Houghton, surface													
drained	40	0-80		0.15-0.25	1.41-42.34	0.35-0.45	 	70-99 		 	3 	2 	134 
Muskego, surface	i					İ		İ		i		İ	İ
drained	40	0-9			4.23-42.34	0.35-0.45		60-90			1	2	134
		9-36			4.23-42.34	0.35-0.45		60-90			ļ	!	!
		36-60	18-35 	0.30-1.10 	0.42-1.41	0.18-0.24	3.0-5.9 	6.0-20 	.28 	.28 	 	 	 
Klossner, drained	10	0-26			1.41-42.34	0.35-0.48		25-60	i	i	2	2	134
		26-36			4.23-14.11	0.22-0.26		10-20	.37	.37			
		36-48			1.41-14.11	0.18-0.22		5.0-10	.28	.28	ļ	ļ	ļ
		48-80	15-32 	1.35 <b>-</b> 1.50 	4.23-14.11	0.15-0.19	3.0-5.9 	0.0-5.0 	.28	.28 	 	 	 
Mineral soil, drained	10	0-13			4.23-14.11	0.18-0.22		5.0-10	.28	.28	5	6	48
ļ	ļ	13-31			1.41-14.11	0.18-0.22		2.0-5.0	.28	.28	ļ	!	!
		31-45			1.41-14.11	0.15-0.19	•	0.5-2.0	1.32	.28   .37	ļ	ļ	ļ
		45-80			4.23-14.11	0.15-0.19		0.1-0.5					

	I					1			Erosi	on fact	tors		Wind
Map symbol and	Pct. of	Depth	Clay	Moist		Available		Organic				erodi-	
component name	map unit			bulk	hydraulic	water	extensi-	matter		l		bility	
				density	conductivity	capacity	bility		Kw	Kf	T	group	index
	ļ	In	Pct	g/cc	um/sec	In/in	Pct	Pct				!	
.51C2:	l I		l I	 	 	 	 	 		 	 		 
Gladek, eroded	80	0-10	18-27	1.15-1.30	4.00-14.00	0.22-0.24	0.0-2.9	2.0-4.0	.28	.28	5	6	48
i	i	10-39		1.20-1.45	•	0.18-0.20	3.0-5.9	0.0-0.8	.43	.43	i	i	i
į	i	39-80	12-30	1.20-1.50	4.00-14.00	0.17-0.22	0.0-2.9	0.0-0.2	.43	.43	İ	i	İ
  Barrington	10 I	0-15	   20-27	  1 20=1 40	   4.00-14.00	0.22-0.26	   0.0-2.9	   3.0-5.0		   .32	   5	   6	   48
Balling con	10	15-33		•	1 4.00-14.00	0.18-0.20	•	0.0-2.0	1 .43	1 .43	1 2	1 0	<del>1</del> 0
	i	33-60			4.00-14.00	0.13-0.20		0.0-2.0	1 .43	1 .43	l I	ŀ	İ
i	i		į		İ				i	į	İ	i	İ
Lester, eroded	5	0-7			4.23-14.11	0.20-0.22	•	1.0-3.0	.28	.28	5	6	48
I	I	7-38			4.23-14.11	0.15-0.19		0.5-1.0	.28	.28		[	
I	I	38-60			4.00-14.00	0.15-0.19	•	0.1-0.5	.32	.37			
	ļ	60-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Madelia	5 I	0-19	   27-35	  1.20-1.30	   4.00-14.00	0.18-0.24	   3.0-5.9	   4.0-8.0	1 .28	   .28	l   5	   7	   38
i	i	19-37	18-35	1.25-1.35	4.00-14.00	0.16-0.22	3.0-5.9	0.8-2.0	.28	.28	i	i	i
į	į	37-60	18-35	1.30-1.40	4.00-14.00	0.16-0.22	0.0-2.9	0.1-0.8	.37	.37	į	į	į
56A:	ļ		 	 			  -	 		 	 		
Muskego, frequently	i i		i i	 	! 		! 	! 	i	 	 	i	
flooded	45	0-9	j	0.10-0.21	4.23-42.34	0.35-0.45	i	60-90	j	j	1	8	j 0
i	i	9-36	j	0.10-0.21	4.23-42.34	0.35-0.45	i	60-90	j	j	i	i	i
į	į	36-60	18-35	0.30-1.10	0.42-1.41	0.18-0.24	3.0-5.9	6.0-20	.28	.28	į	į	į
   Klossner, frequently	ļ		 	 			 	 		 	 		
flooded	45 l	0-26	 	   0 25 0 55	   1.41-42.34	0.35-0.48	 	l   25-60		 	   2	l l 8	l l 0
1100ded	45	26-33			4.23-14.11	0.22-0.26	•	10-20	1 .37	   .37	<u>4</u> 	°	0
	· ·	33-40			1.41-14.11	0.18-0.22	!	5.0-10	1 .28	.28	l I	1	
	i	40-80			4.23-14.11	0.15-0.19	•	0.0-5.0	.28	.28	<u> </u>	i	i
_ , ,	ļ		ļ									ļ	
Suckercreek,	10 I	0-22	   720	  1 20 1 60	  14.11-42.34	0.18-0.24	   0.0-2.9	   3.0-6.0	1 .28	   .28	   5	l l 8	l l 0
frequently flooded	10	22-80		•	14.11-42.34	0.18-0.24		0.2-3.0	1 .28	1 .28	3	° 	l o
į	i		į		İ				i	į	İ	i	İ
157A:			ļ						!			2	
Medo, drained	80	0-27 27-35			1.41-42.34	0.35-0.45		55-85 5.0-20			2	4	134
		35-39			4.23-42.34	0.13-0.20		0.5-2.0	.24	.24   .24		!	!
	l I	39-80			42.34-141.14			0.0-0.5	1 .10	1 .10	 	ŀ	
į	i		İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
Mineral soil, drained	15	0-23			14.11-42.34	0.16-0.20		3.0-15	.20	.20	4	3	86
ļ	ļ	23-31			14.11-42.34	0.12-0.17		0.5-1.0	.20	.20	ļ	!	!
		31-60	2-6 	1.45-1.65 	42.34-141.14	0.02-0.08	0.0-2.9	0.0-0.5	.05	.15 	 		 
Houghton, drained	5	0-10	 	  0.15-0.25	   1.41-42.34	0.35-0.45	 	   70-99		 	   3	2	134

Table 15.--Physical Properties of the Soils--Continued

Table 15.--Physical Properties of the Soils--Continued

Map symbol and	Pct. of	   Depth	   Clay	   Moist	   Saturated	  Available		Organic	Erosi	on fac	tors	erodi-	Wind  erodi-
component name	map unit			bulk	hydraulic	water	extensi-	matter	!		! _	bility	
		l In	   Pct	density g/cc	conductivity um/sec	capacity In/in	bility   Pct	Pct	Kw	Kf	T 	group	index
				9/00						i			
L63A:	0.5											   2	
Klossner	85	0-25			1.00-42.00	0.35-0.48		25-60			2	2	134
		25-40 40-80			1.00-14.00   1.00-14.00	0.18-0.22		4.0-10   0.5-4.0	1 .28	.28 .28		l I	
		10 00	20 13						.20	.20	i	<u> </u>	i
Lura	10	0-10	45-60	1.25-1.35	0.00-1.00	0.14-0.17	6.0-8.9	4.0-12	.28	.28	5	4	86
		10-58	45-60	1.25-1.35	0.00-1.00	0.14-0.17	6.0-8.9	1.0-4.0	.32	.32			
		58-72	28-60	1.30-1.45	0.00-4.00	0.11-0.19	6.0-8.9	0.0-1.0	.32	.32	ļ	ļ	ļ
Brownton	5	   0-22	   35-40	  1.20=1.30	   0.00-1.00	0.18-0.22	   6.0-8.9	4.0-8.0	1 .28	   .28	   5	   4	l l 86
220112001		22-38			0.00-1.00	0.13-0.16		0.2-1.0	1 .28	.28	i	i -	
		38-60	•	•	4.00-14.00	0.15-0.19	•	0.1-0.5	.32	.37	i	i	i
			ļ	<u> </u>	ļ					ļ	ļ	ļ	ļ
L64A: Tadkee	   50	   0-6	2_12	  1 20_1 60	  42.34-141.14	10 10-0 12	   n n_2 a	4.0-10		   .17	   5	   2	134
iadkee	] 30	0-0   6-34			42.34-141.14	0.05-0.12		0.1-0.5	1 .17	1 .17	7	<b>4</b>	1 134
		0-34   34-80	•	•	4.23-14.11	0.15-0.19		0.1-0.5	.17	37	ľ	! 	
			i		i	İ				i	i	i	i
Tadkee, depressional	36	0-6			1.41-42.34	0.35-0.45		15-30	.10	.10	5	2	134
		6-27	0-10	1.45-1.60	42.34-141.14	0.05-0.12		0.1-0.5	.17	.17			
		27-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Better drained soil	   8	l l 0-6	l   3-6	  1.50-1.55	  42.00-141.00	0.08-0.12	l   0.0-2.9	1.0-4.0	1 .17	   .17	l I 5	   2	   134
		6-25			42.00-141.00	0.07-0.11		0.5-1.0	.17	.17	i	i	i
		25-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	İ	i	i
G	4											   2	134
Granby	4	0-12   12-24	•	•	42.34-141.14	•	•	4.0-10	1.17	1.17	5	2	1 134
		24-60				0.05-0.12		0.0-0.5	1 .17	1 .17		 	
		24-00	0-10	1.45-1.00 			0.0-2.5	0.0-0.5	•=/	•=/	i	i	1
Less sandy soil	2	0-4	2-12	1.20-1.60	42.34-141.14	0.10-0.12	0.0-2.9	4.0-10	.17	.17	5	2	134
		4-20	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		20-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	ļ	ļ	ļ
L73A:			 	 	l I		 	l i		 		 	
Blue Earth	80	   0-10	   18-32	  0.20-0.80	   4.00-14.00	0.18-0.24	l   3.0-5.9	1 10-25	.28	.28	l   5	   6	l l 48
		10-68			4.00-14.00	0.18-0.24		10-20	.28	.28	i	i	i
j		68-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	İ	İ	İ
Belleville	10	0-11	•	•	14.11-42.34	0.13-0.18		3.0-6.0	.20	.20	3	3	86
		11-27	•	•	42.34-141.14	!	!	0.1-0.5	1.17	.17		1	
		27-48 48-80			1.41-4.23   4.00-14.00	0.12-0.20		0.1-0.5	.32	32		1	1
		1 40-00	∠U-3U	1	1 4.00-14.00	10.12-0.19	1.0-4.2 	1 0.1-0.5	1 .32	.3/		1	1

Map symbol and	Pct. of	   Depth	   Clay	   Moist	   Saturated	  Available	   Linear	   Organic	Erosi	on fac	tors		Wind  erodi
component name	map unit		ļ	bulk	hydraulic	water	extensi-	matter			_	bility	
		In	   Pct	density g/cc	conductivity um/sec	capacity In/in	bility   Pct	Pct	Kw	Kf 	<u>T</u> 	group	index 
L73A:			İ	į	 	İ	İ	į	į	į	į	į	į
Canisteo	10	   0-18	   27-35	  1.25-1.35	4.00-14.00	  0.18-0.22	3.0-5.9	4.0-7.0	.24	.24	5	   4L	   86
	i	18-39	25-35	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.5-1.0	.32	.32	i	i	i
		39-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	ĺ		İ
L74A:			 	 	! 	 	 	 		! 			
Estherville	87	0-13				0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-18				0.13-0.18		0.0-0.5	.20	.20			
		18-23				0.02-0.04		0.0-0.5	.10	.10	ļ	ļ	ļ
		23-60 	0-8 	1.50-1.65 	42.00-141.00 	0.02-0.04 	0.0-2.9 	0.0-0.5	.10	.10 	 	 	 
Hawick	10	0-7	2-10	1.50-1.65	14.11-141.14	0.03-0.13	0.0-2.9	1.0-3.0	.10	.15	5	8	86
		7-80	1-5	1.55-1.65	141.14-282.29	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15	ĺ		İ
Biscay	3	   0-20	   18-30	  1.20-1.30	4.00-14.00	  0.20-0.22	   3.0-5.9	4.0-8.0	.28	1 .28	4	   6	   48
-		20-28	18-30	1.25-1.35	4.00-14.00	0.17-0.19	3.0-5.9	0.5-1.0	.28	.28	i	i	i
	ĺ	28-36	10-28	1.35-1.55	14.00-42.00	0.11-0.17	0.0-2.9	0.5-1.0	.28	.32	ĺ	İ	ĺ
		36-60	1-6	1.55-1.65	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
L75B:			 	 	! 	! 	! 	 		 			
Barrington	85	0-15	20-27	1.20-1.40	4.00-14.00	0.22-0.26	0.0-2.9	3.0-5.0	.32	.32	5	6	48
		15-33		•		0.18-0.20		0.0-2.0	.43	.43			
		33-60 	7-28 	1.50-1.70 	4.00-14.00	0.07-0.11 	0.0-2.9 	0.0-0.5	.43	.43	 	l I	l I
Gladek	10	0-10	18-27	1.15-1.30	4.00-14.00	0.22-0.24	0.0-2.9	2.0-4.0	.28	.28	5	6	48
		10-39				0.18-0.20		0.0-0.8	.43	.43			
		39-80 	12-30 	1.20-1.50	4.00-14.00	0.17-0.22	0.0-2.9	0.0-0.2	.43	.43		 	 
Madelia	5	   0-19	   27-35	1.20-1.30	4.00-14.00	0.18-0.24	3.0-5.9	4.0-8.0	.28	.28	5	7	38
	İ	19-37	18-35	1.25-1.35	4.00-14.00	0.16-0.22	3.0-5.9	0.8-2.0	.28	.28	İ	į	j
		37-60	18-35	1.30-1.40	4.00-14.00	0.16-0.22	0.0-2.9	0.1-0.8	.37	.37			
L76B:			 	 	 	! 	! 	 		 			
Dickinson	80	0-14	10-18	1.50-1.55	14.00-42.00	0.12-0.15	0.0-2.9	1.0-2.0	.20	.20	4	3	86
		14-39			14.00-42.00	0.12-0.15		0.2-0.8	.17	.17			
		39-60 	4-10 	1.60-1.70	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	1.15	.15		 	 
Litchfield	13	0-20		•	  42.34-141.14	0.10-0.12	0.0-2.9	1.5-3.0	.17	1 .17	4	2	134
		20-33				0.07-0.16		0.5-1.0	.17	1.17			
		33-40		•		0.22-0.24		0.2-0.8	.32	.32	ļ	ļ	ļ
		40-80 	1-8 	1.45-1.65 	42.34-141.14 	0.08-0.10 	0.0-2.9 	0.1-0.5	.17	.17 	 	 	 
Darfur	5	0-9				0.20-0.22		5.0-8.0	.20	.20	5	5	56
		9-19				0.20-0.22	•	2.0-6.0	.20	.20	ļ	ļ	ļ
		19-31   31-60				0.15-0.17 0.08-0.10		0.2-0.8	.20	.20   .20	!	!	

Table 15.--Physical Properties of the Soils--Continued

Table 15.--Physical Properties of the Soils--Continued

Map symbol and	Pct. of	Depth	   Clay	   Moist	Saturated	  Available		   Organic	Erosi	on fac	cors	erodi-	
component name	map unit			bulk	hydraulic	water	extensi-	matter				bility	
				density	conductivity	capacity	bility		Kw	Kf	Т	group	index
		In	Pct 	g/cc   	um/sec	In/in	Pct 	Pct 	 	 	 	 	 
176B:			į					į	į	į			į
Clarion	2	0-14			4.00-14.00	0.20-0.22			.24	.24	5	6	48
ļ		14-33			4.00-14.00	0.17-0.19		0.5-1.0	.37	.37	!	ļ	ļ
		33-60	20-30	1.35-1.55  	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	 		 
.77A:			i				 	 					
Brownton	75	0-22	35-40	1.20-1.30	0.00-1.00	0.18-0.22	6.0-8.9	4.0-8.0	.28	.28	5	4	86
ļ.		22-38	35-60	1.20-1.30	0.00-1.00	0.13-0.16	6.0-8.9	0.2-1.0	.28	.28			
		38-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		ļ	
  Marna	   15	0-20	   35-50	  1.20-1.30	0.42-1.41	0.18-0.22	   6.0-8.9	4.0-8.0	   .28	   .28	   5	   4	   86
j	i i	20-32	35-60	1.25-1.40	0.42-1.41	0.13-0.16	6.0-8.9	0.5-1.0	.32	.32	İ	İ	İ
į	į į	32-41	28-35	1.35-1.50	1.41-4.23	0.15-0.19	3.0-5.9	0.2-0.8	.28	.28	İ	İ	İ
ļ		41-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	ĺ	İ	İ
   Lura	   10	0-10	   45-60	  1.25-1.35	0.00-1.00	0.14-0.17	   6.0-8.9	   4.0-12	   .28	   .28	   5	   4	   86
į	i i	10-58	45-60	1.25-1.35	0.00-1.00	0.14-0.17	•	1.0-4.0	.32	.32	i	i	i
į		58-72	28-60	1.30-1.45	0.00-4.00	0.11-0.19	6.0-8.9	0.0-1.0	.32	.32	į	į	į
.78A:	 		l I	 		 	 	 	l I	 	 	 	 
Canisteo	l 65	0-18	27-35	  1.25-1.35	4.00-14.00	0.18-0.22	3.0-5.9	4.0-7.0	.24	.24	,   5	4L	86
į	i i	18-39	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32	i	i	i
į		39-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
   Crippin	   10	0-15	   22-27	  1.35-1.40	4.00-14.00	0.20-0.22	   0.0-2.9	   5.0-6.0	1 .24	   .24	   5	   4L	   86
		15-27			4.00-14.00	0.17-0.19		0.8-2.5	.28	.28	i	i	i
į		27-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
Glencoe	   10	0-10	   27-35	  1.35-1.45	1.00-14.00	0.18-0.22	   3.0-5.9	   5.0-10	   .28	   .28	   5	   6	   48
		10-35			1.00-14.00	0.18-0.22		2.0-5.0	.28	.28	i	i	
i	i	35-48			1.00-14.00	0.15-0.19		0.5-2.0	.28	.28	i	i	i
į		48-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
Canisteo,	 		l I	 			 	 	 	 	 	 	 
depressional	I 5 I	0-17	27-32	  1.25-1.35	4.00-14.00	0.18-0.22	3.0-5.9	4.0-8.0	.24	.24	,   5	   4L	l   86
		17-30			4.00-14.00	0.15-0.19		2.0-4.0	.32	.32	i	i	i
į		30-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
   Harps	   5	0-13	   27-35	  1.35-1.40	4.23-14.11	0.19-0.21	   3.0-5.9	   3.0-5.0	   .24	   .24	   5	   4L	   86
		13-30			4.00-14.00	0.15-0.19		0.1-0.5	.32	.37	i	i	i
ļ		30-60			4.00-14.00	0.15-0.19		0.1-0.5	.32	.37	į	į	į
  Webster	   5	0-19	   26-35	  1.35=1.40	4.00-14.00	  0.19-0.21	   3.0=5.9	4.0-7.0		   .24	   5	   6	   48
Mend cer	, , , , ,	19-26			4.00-14.00	0.19-0.21		0.8-2.5	32	32	]	1 °	<del>1</del> 0
ļ		26-60			4.00-14.00	0.15-0.19		0.1-0.5			! 	<u> </u>	¦
			, 20 30			10110 0010		1 2.7 2.2					1

Map symbol and	Pct. of	Depth	   Clay	   Moist	   Saturated	  Available	•	   Organic	Erosi	on fact	tors	erodi-	
component name	map unit			bulk density	hydraulic conductivity	water	extensi-	matter	   Kw	   K£		bility  group	
		In	Pct	g/cc	um/sec	In/in	Pct	Pct	KW	<u>KI</u>	<u> </u>	group 	Index
L79B:	 		 	  -	 		 	 			 		
Clarion		0-14	l   20-27	I   1 . 30=1 . 55	4.00-14.00	0.20-0.22	I I 0.0-2.9	l 3.0-6.0	.24	.24	l I5	l l 6	l I 48
CIUIION		14-33			4.00-14.00	0.17-0.19		0.5-1.0	1.37	.37		i	1 10
	İ	33-60	'		4.00-14.00	0.15-0.19	•	0.1-0.5	.32				
Clarion, eroded	   25	0-10	   20-27	  1.30-1.55	   4.00-14.00	0.20-0.22	   0.0-2.9	   2.0-3.5	1.24	   .24	   5	   6	   48
-	i	10-38	23-30	1.30-1.55	4.00-14.00	0.17-0.19	0.0-2.9	0.5-1.0	i .37	.37	i	i	i
	į	38-60	•	•	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
Nicollet	   8	0-17	   27-35	  1.15-1.25	   4.00-14.00	0.17-0.22	   3.0-5.9	   4.0-8.0	.24	   .24	   5	   6	   48
	İ	17-33	25-35	1.25-1.35	4.00-14.00	0.15-0.19	3.0-5.9	0.8-2.0	.32	.32	ĺ	İ	İ
		33-36	25-35	1.25-1.35	4.00-14.00	0.15-0.19	3.0-5.9	0.2-0.8	.32	.32			
		36-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Webster	2	0-19	   26-35	  1.35-1.40	   4.00-14.00	0.19-0.21	   3.0-5.9	   4.0-7.0	.24	.24	   5	   6	   48
		19-26	25-35	1.40-1.50	4.00-14.00	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
	 	26-60	20-30	1.35-1.55 	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	 		
L80C2:			 	 	 		! 	 	İ				
Lester, eroded	75	0-7			4.23-14.11	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		7-38	'		4.23-14.11	0.15-0.19	•	0.5-1.0	.28	.28			
		38-60			4.00-14.00	0.15-0.19	•		.32				
		60-80	20-30 	1.35-1.55 	4.00-14.00 	0.15-0.19	1.0-4.2 	0.1-0.5 	.32	.37 	 	 	 
Terril	10	0-27	18-26	1.35-1.40	4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40			4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30 	1.35-1.55 	4.00-14.00 	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37 	 	 	 
Hamel	5	0-24	'	•		0.20-0.24	!	5.0-7.0	.28	.28	5	6	48
		24-46			1.41-4.23	0.16-0.19		1.0-4.0	.28	.28	!	!	ļ
		46-80	20-30 	1.35-1.55 	4.00-14.00 	0.15-0.19	1.0-4.2 	0.1-0.5 	.32	.37 	 	 	 
Reedslake	5	0-12	'	•	4.23-14.11	0.20-0.22		3.0-5.0	.24	.24	5	6	48
		12-26	'	•	4.23-14.11	0.15-0.19	!	0.5-2.0	.32	.32	!	!	ļ
	. !	26-48	'	•	4.00-14.00	0.15-0.19		0.1-0.5	.32	.37	ļ	!	ļ.
		48-80	20-30 	1.35-1.55 	4.00-14.00 	0.15-0.19	1.0-4.2 	0.1-0.5 	.32	.37 	 		 
Storden, eroded	5	0-7	'	•	4.23-14.11	0.20-0.22		1.0-2.0	.28	.28	5	4L	86
		7-55	'	•	4.23-14.11	0.15-0.19		0.0-1.0	.37	.37	İ		
	ı	55-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	l	I	I

Table 15.--Physical Properties of the Soils--Continued

Table 15.--Physical Properties of the Soils--Continued

Map symbol and	Pct. of	Depth	   Clay	   Moist	Saturated	  Available		   Organic	Erosi	on fac		Wind  erodi-	erodi
component name	map unit			bulk	hydraulic	water	extensi-	matter	1			bility	
				density	conductivity	capacity	bility	L	Kw	Kf	Т	group	index
		In	Pct I	g/cc I	um/sec	In/in	Pct	Pct				 	
L80D2:				! 	 				i		İ		
Lester, eroded	75	0-7			4.23-14.11	0.20-0.22		1.0-3.0	.28	.28	5	6	48
		7-38			4.23-14.11	0.15-0.19		0.5-1.0	.28	.28			
		38-60			4.00-14.00	0.15-0.19		0.1-0.5	.32	.37			
		60-80	20-30 	1.35-1.55 	4.00-14.00 	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37 	 	 	 
Ridgeton	10	0-23	   18-26	1.35-1.40	4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		23-38	24-30	1.40-1.45	4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		38-50	22-30	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.8-2.5	.32	.32			
		50-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Storden, eroded	8	0-7	   18-27	  1.35-1.45	   4.23-14.11	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	   5	   4L	   86
		7-55	18-30	1.35-1.65	4.23-14.11	0.15-0.19	3.0-5.9	0.0-1.0	.37	.37			
		55-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		ļ	
Terril	5	0-27	   18-26	  1.35-1.40	   4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	   5	   6	   48
	i	27-40	24-30	1.40-1.45	4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28	i	į	İ
	İ	40-63	22-30	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32	İ	İ	İ
		63-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	ĺ	İ
Hame1	2	0-24	   20-27	  1.30-1.40	   4.23-14.11	0.20-0.24	0.0-2.9	5.0-7.0	1 .28	   .28	   5	   6	   48
		24-46	24-35	1.45-1.60	1.41-4.23	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		46-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L81A:			 	 	 	 	 	 		 	 	 	 
Cordova	85	0-18	27-30	1.25-1.45	1.41-4.23	0.18-0.22	3.0-5.9	4.0-7.0	.28	.28	5	6	48
		18-38	28-35	1.35-1.50	1.41-4.23	0.15-0.19	3.0-5.9	1.0-4.0	.28	.28			
		38-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Le Sueur	10	0-17	   28-30	  1.50-1.70	   4.23-14.11	0.17-0.20	3.0-5.9	3.0-7.0	.24	.24	   5	   6	   48
		17-37	24-35	1.30-1.45	4.23-14.11	0.15-0.19	3.0-5.9	0.5-2.0	.32	.32			
		37-46	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		46-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Rolfe	5	0-12	   22-27	  1.35-1.40	   4.23-14.11	0.22-0.24	0.0-2.9	3.0-5.0	.37	.37	5	   6	48
		12-20	22-27	1.40-1.50	4.23-14.11	0.22-0.24	0.0-2.9	1.0-2.0	.28	.28			
		20-35	39-45	1.50-1.60	0.42-1.41	0.11-0.13	6.0-8.9	1.0-2.0	.28	.28			
		35-51		•	1.41-14.11	0.14-0.16	3.0-5.9	0.0-1.0	.28	.28			
		51-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		 	
L82A:			 	 	 								
Marna	85	0-20		•	0.42-1.41	0.18-0.22	6.0-8.9	4.0-8.0	.28	.28	5	4	86
		20-32			0.42-1.41	0.13-0.16		0.5-1.0	.32	.32			
	ļ l	32-41			1.41-4.23	0.15-0.19		0.2-0.8	.28	.28	ļ	!	
		41-60	20-30	11 25_1 55	4.00-14.00	0.15-0.19	1 1 0-4 2	0.1-0.5	.32	.37	1	l .	1

									Erosi	on fact	tors	•	Wind
Map symbol and	Pct. of	Depth	Clay	Moist	Saturated	Available		Organic	!			•	erodi-
component name	map unit		ļ	bulk	hydraulic	water	extensi-	matter			_	bility	
				density		capacity	bility		Kw	K£	T	group	index
		In	Pct	g/cc	um/sec	In/in	Pct	Pct		!	!	!	!
			!	ļ		!			ļ	ļ	!	ļ	!
L82A:											ļ 		
Barbert	10	0-7			4.00-14.00	0.22-0.24	•	4.0-7.0	.28	.28	5	6	48
		7-17			4.00-14.00	0.22-0.24		0.2-0.8	.28	.28	!	!	ļ
		17-43			0.00-1.00	0.10-0.14			.28	.28			
		43-60	18-32	11.20-1.60	4.00-14.00	0.22-0.24	0.0-2.9	0.1-0.8	.28	.28			
Charles and	l 5	l   0-15		1 20 1 20	   1.41-4.23	10 16 0 10			l   .28	l   .28	l I5	   4	l I 86
Guckeen	) 	0-15   15-24			0.42-4.23	0.16-0.19		4.0-6.0 0.5-1.5	1 .28	1 .28	>	4	00
		24-30		•	0.42-4.23	0.15-0.17			37	37	l i	 	 
		24-30   30-60		•	4.00-14.00	0.15-0.17			32		l i	 	 
		30 <b>-</b> 60	20-30 	1.32-1.33	4.00-14.00	10.13-0.19	1.0-4.2 	0.1-0.5	•32	•3/	l I	l I	 
L83A:		l I	I I		 	I I	l I	I I			l I	i i	l I
Webster	l 65	I   0-19	I   26-35	  1.35=1.40	   4.00-14.00	0.19-0.21	l   3.0=5.9	   4.0-7.0	.24	1 .24	I I 5	l l 6	l I 48
Webster	03 	19-26			4.00-14.00	0.16-0.18		0.8-2.5	.32	32	1	i	<del>1</del> 0
		26-60		•	4.00-14.00	0.15-0.19		0.1-0.5	.32		! 	i	! !
		=0 00 	=0 00	1	1		 	002 000 	132	107	<u>'</u>	i	i
Glencoe	15	   0-10	   27-35	11.35-1.45	1.00-14.00	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	l I 48
		10-35			1.00-14.00	0.18-0.22	•		.28	.28	i	i -	i
i		35-48			1.00-14.00	0.15-0.19	•		.28	.28	i	i	i
i	i	48-60		•	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	i	i	i
i	i	İ	i	i	İ	İ	İ	İ	i	i	i	i	i
Canisteo	10	0-18	27-35	1.25-1.35	4.00-14.00	0.18-0.22	3.0-5.9	4.0-7.0	.24	.24	5	4L	86
		18-39	25-35	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.5-1.0	.32	.32	İ	İ	İ
		39-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	İ	İ	İ
İ		ĺ	İ	İ	ĺ	İ	ĺ	ĺ	ĺ	İ	ĺ	İ	İ
Nicollet	10	0-17	27-35	1.15-1.25	4.00-14.00	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		17-33	25-35	1.25-1.35	4.00-14.00	0.15-0.19	3.0-5.9	0.8-2.0	.32	.32			
		33-36	25-35	1.25-1.35	4.00-14.00	0.15-0.19	3.0-5.9	0.2-0.8	.32	.32			
		36-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L84A:													
Glencoe	80	0-10			1.00-14.00	0.18-0.22		5.0-10	.28		5	6	48
		10-35			1.00-14.00	0.18-0.22		2.0-5.0	.28	.28			
		35-48	•		1.00-14.00	0.15-0.19	•	0.5-2.0	.28	.28			
		48-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
			!	ļ									
Very poorly drained			!	!	!	!				!	!	!	!
muck	10	0-12			1.00-42.00	0.35-0.48		25-60			2	2	134
		12-29	•		1.00-14.00	0.18-0.22		2.0-5.0	.28	.28	!	ļ	!
		29-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	ļ		ļ
gamatan basa	_											1 47	
Canisteo	5	0-18		•	4.00-14.00	0.18-0.22		4.0-7.0	.24	.24	5 	4L	86
		18-39			4.00-14.00	0.15-0.19		0.5-1.0	.32	.32	i i		I
		39-80	∠∪-30	11.35-1.55	4.00-14.00	0.15-0.19	1 1.0-4.2	0.1-0.5	.32	.37	 	1	
	l	I	I	I	l	1	I	I	I	I	l	1	I

Table 15.--Physical Properties of the Soils--Continued

Table 15.--Physical Properties of the Soils--Continued

Map symbol and	Pct. of	   Depth	   Clay	   Moist	Saturated	Available		   Organic	Erosi	on fac	cors	erodi-	Wind  erodi-
component name	map unit			bulk	hydraulic	water	extensi-	matter	!		! _	bility	
		l In	l Pct	density   g/cc	conductivity um/sec	capacity In/in	bility   Pct	l Pct	Kw	Kf	T	group	index
		l 111	PGC 	g/cc 	um/sec 	111/111	PGC	PCC	i	 	 	i i	l I
L84A:	j j	İ	į	į	İ	İ	į	į	į	i	i	İ	İ
Harps	5	0-13			4.23-14.11	0.19-0.21		3.0-5.0	.24	.24	5	4L	86
		13-30			4.00-14.00	0.15-0.19		0.1-0.5	.32	.37	ļ	ļ	ļ
		30-60 	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	l I		
L85A:		l I	! 	! 			 	 	i	l	 	i	i i
Nicollet	85	0-17	27-35	1.15-1.25	4.00-14.00	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	6	48
	i i	17-33	25-35	1.25-1.35	4.00-14.00	0.15-0.19	3.0-5.9	0.8-2.0	.32	.32	İ	İ	İ
	i i	33-36	25-35	1.25-1.35	4.00-14.00	0.15-0.19	3.0-5.9	0.2-0.8	.32	.32	İ	İ	İ
	İ	36-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	İ	İ	İ
m3 !													
Clarion	10	0-14			4.00-14.00   4.00-14.00	0.20-0.22		3.0-6.0	.24	.24	5	6	48
		14-33   33-60			4.00-14.00	0.17-0.19		0.5-1.0	37	37		!	
		33-60 	20-30 	1.35-1.55	4.00-14.00 	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.3/	l I		 
Webster	5	0-19	26-35	1.35-1.40	4.00-14.00	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
	İ	19-26	25-35	1.40-1.50	4.00-14.00	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32	ĺ	İ	ĺ
		26-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	ļ	ļ	ļ
L86A:			 	 			 	 		l I	 		 
Madelia	l 90 l	l   0-19	   27-35	I   1 . 20=1 . 30	   4.00-14.00	0.18-0.24	I I 3.0-5.9	1 4.0-8.0	1 .28	.28	l I5	7	l l 38
naciia	50	19-37			4.00-14.00	0.16-0.22		0.8-2.0	1 .28	.28		'	1
		37-60			4.00-14.00	0.16-0.22		0.1-0.8	.37	.37	i	i	i
	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
Okoboji	5	0-26			1.00-4.00	0.21-0.23		5.0-10	.32	.32	5	4	86
		26-42			1.00-4.00	0.18-0.20		0.5-2.0	.32	.32			
		42-60	28-35	1.35-1.40	1.00-4.00	0.18-0.20	6.0-8.9	0.2-0.8	.32	.32			
Spicer	l 3	l   0-16	l   29-35	  1.20-1.30	   4.00-14.00	0.18-0.24	   3.0-5.9	   4.0-8.0	1 .28	l   .28	l I5	   4L	l l 86
-		16-40	•	•	4.00-14.00	0.16-0.22		0.8-2.0	.37	.37	i	i	i
	i i	40-60	18-35	1.25-1.35	4.00-14.00	0.16-0.22	0.0-2.9	0.1-0.8	.37	.37	i	j	j
			!	<u> </u>		ļ.	!	!		ļ	ļ	ļ	
Kingston	2	0-16	•	•	4.23-14.11	0.18-0.24		4.0-8.0	.28	.28	5	7	38
		16-25			4.23-14.11	0.16-0.20		1.0-3.0	.37	.37	ļ	ļ	ļ
		25-60 	18-32 	1.25-1.35 	4.23-14.11	0.16-0.20	0.0-2.9	0.1-0.5	.37	.37	 	l I	l I
L87A:			! 	! 		i	! 	! 	i	i	i İ	i	i
Kingston	85 I	0-16	27-32	1.20-1.30	4.23-14.11	0.18-0.24	0.0-2.9	4.0-8.0	.28	.28	5	7	38
	i i	16-25	18-32	1.25-1.35	4.23-14.11	0.16-0.20	0.0-2.9	1.0-3.0	.37	.37	i	i	i
	İ	25-60	18-32	1.25-1.35	4.23-14.11	0.16-0.20	0.0-2.9	0.1-0.5	.37	.37	ĺ	İ	İ
_													
Truman	10	0-14			4.00-14.00	0.20-0.23		4.0-8.0	.32	.32	5	6	48
		14-36	•	•	4.00-14.00	0.18-0.21		1.0-2.0	.43	.43	l	!	
		36-60	18-32 	11.35-1.45	4.00-14.00	0.18-0.20	0.0-∠.9	0.0-1.0	.43	.43	l I	1	
				1		1	I	I				1	

|Erosion factors|Wind |Wind

Table 15.--Physical Properties of the Soils--Continued

	_		_	. !	_	!	! .		Erosio	on ract	cors	wina	
Map symbol and	Pct. of	Depth	Clay	Moist	Saturated	Available		Organic	ļ			erodi-	
component name	map unit			bulk	hydraulic	water	extensi-	matter				bility	_
				density	conductivity	capacity	bility		Kw	Kf	Т	group	index
		In	Pct	g/cc	um/sec	In/in	Pct	Pct					
L87A:													
Madelia	5	0-19			4.00-14.00	0.18-0.24	3.0-5.9	4.0-8.0	.28	.28	5	7	38
		19-37	18-35	1.25-1.35	4.00-14.00	0.16-0.22	3.0-5.9	0.8-2.0	.28	.28			
		37-60	18-35	1.30-1.40	4.00-14.00	0.16-0.22	0.0-2.9	0.1-0.8	.37	.37			
L88A:						!	!		!				
Lura	85	0-10			0.00-1.00	0.14-0.17		4.0-12	.28	.28	5	4	86
		10-58	•		0.00-1.00	0.14-0.17		1.0-4.0	.32	.32			
		58-72	28-60	1.30-1.45	0.00-4.00	0.11-0.19	6.0-8.9	0.0-1.0	.32	.32		!	
											_		
Brownton	10	0-22			0.00-1.00	0.18-0.22		4.0-8.0	.28	.28	5	4	86
		22-38	•		0.00-1.00	0.13-0.16		0.2-1.0	.28	.28			
		38-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Organic soil	5				1 00 40 00		 	l   25-60	 	 	2	   2	134
Organic soil	5	0-10			1.00-42.00	0.35-0.48					4	2	134
		10-26   26-48			4.00-14.00	0.22-0.26		10-20	.37	.37	l i		
			•		1.00-14.00	0.18-0.22		5.0-10	.28	.28	l i		
		48-80	28-40 	1.30-1.45  	0.00-4.00	0.11-0.19	6.0-8.9	0.0-1.0	.32	.32	l I		
L89A:			l I					l I	l I		l İ	 	
Guckeen	82	l   0-15	l   35_40	  1 20-1 30	1.41-4.23	0.16-0.19	   6 0-8 9	   4.0-6.0	l   .28	.28	l   5	l 4	86
Guckeen	02	15-24			0.42-4.23	0.13-0.16		0.5-1.5	1 .28	.28	]	<del>*</del>	00
		24-30	•		0.42-4.23	0.15-0.17		0.2-0.8	1 .37	.37	l I	 	
		30-60	•		4.00-14.00	0.15-0.19	•	0.1-0.5	32	.37	l I	 	
		30 00	1 20 30	1.55 1.55   	1.00 11.00	1	1	0.1 0.5 	.52	•37 	 	! 	
Marna	10	0-20	   35-50	  1.20-1.30	0.42-1.41	0.18-0.22	l 6.0-8.9	4.0-8.0	.28	.28	5	1 4	86
		20-32			0.42-1.41	0.13-0.16		0.5-1.0	32	.32	•	i -	
		32-41	•		1.41-4.23	0.15-0.19		0.2-0.8	.28	.28			
		41-60	•		4.00-14.00	0.15-0.19	•	0.1-0.5	.32	.37			
i							i		i		İ	i	
Clarion clay loam	8	0-13	20-27	1.30-1.55	4.00-14.00	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	6	48
-	i	13-37	27-30	1.30-1.55	4.00-14.00	0.17-0.19	i	0.5-1.0	.37	.37	İ	i	
	i	37-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	İ	j i	
	İ	i	İ	į į		İ	İ	İ	İ	į	ĺ	j i	
L90A:	ĺ			į į		İ	ĺ	ĺ	ĺ		ĺ	ĺ	
Le Sueur	75	0-17	28-30	1.50-1.70	4.23-14.11	0.17-0.20	3.0-5.9	3.0-7.0	.24	.24	5	6	48
		17-37	24-35	1.30-1.45	4.23-14.11	0.15-0.19	3.0-5.9	0.5-2.0	.32	.32			
İ	ĺ	37-46	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		l i	
İ	ĺ	46-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		l i	
						1	1	l					
Cordova	13	0-18	27-30	1.25-1.45	1.41-4.23	0.18-0.22	3.0-5.9	4.0-7.0	.28	.28	5	6	48
		18-38	28-35	1.35-1.50	1.41-4.23	0.15-0.19	3.0-5.9	1.0-4.0	.28	.28			
		38-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
						1	I	l					

Table 15.--Physical Properties of the Soils--Continued

Map symbol and   component name	Pct. of	Depth	   Clay	   Moist   bulk	   Saturated   hydraulic	  Available   water	   Linear  extensi-	   Organic   matter	Erosi	on tac	tors 	Wind  erodi-  bility	
component name	map unit				nydraulic  conductivity			matter	17	   Kf	l Im		
		In	l Pct	density   g/cc	um/sec	capacity In/in	bility   Pct	l   Pct	Kw	KI	T	group	Index
ļ		111	FCC	9/66 	um/sec	111/111	FCC	FCC 		i	l	! 	! !
L90A:	i			İ	İ	İ	İ	İ	i	i	i	i	i
Reedslake	12	0-12	20-26	1.30-1.40	4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
J		12-26	22-32	1.40-1.50	4.23-14.11	0.15-0.19	3.0-5.9	0.5-2.0	.32	.32			
J		26-48			4.00-14.00	0.15-0.19		0.1-0.5	.32	.37			
		48-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	ļ		ļ
 L91A:			 	 	 	 	 	 	1	 		l I	 
Mazaska	85	0-15	27-40	  1.15-1.30	1.41-4.23	0.17-0.22	6.0-8.9	4.0-7.0	.28	.28	5	7	38
		15-42	•	•	0.42-1.41	0.10-0.16	•	0.5-2.0	.28	.28	i	i	i
ļ	i	42-80			4.00-14.00	0.15-0.19	•	0.1-0.5	.32	.37	i	i	İ
											ļ _	! _	
Lerdal	10	0-8		•	1.00-14.00	0.18-0.22		2.0-4.0	.37	.37	5	7	38
ļ		8-12	•	•	1.00-14.00	0.18-0.22	•	0.2-1.5	.37	.37	!	ļ	ļ
ļ		12-41	•	•	0.00-1.00	0.13-0.19	•	0.2-0.8	.32		!		
		41-80	20-30 	1.35-1.55 	4.00-14.00 	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37 		l I	l I
Rolfe	5	0-12	22-27	1.35-1.40	4.23-14.11	0.22-0.24	0.0-2.9	3.0-5.0	.37	.37	5	6	48
İ		12-20	22-27	1.40-1.50	4.23-14.11	0.22-0.24	0.0-2.9	1.0-2.0	.28	.28	ĺ	İ	İ
j	i	20-35	39-45	1.50-1.60	0.42-1.41	0.11-0.13	6.0-8.9	1.0-2.0	.28	.28	İ	İ	İ
İ		35-51	25-35	1.50-1.60	1.41-14.11	0.14-0.16	3.0-5.9	0.0-1.0	.28	.28	ĺ	İ	İ
j		51-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	ĺ	İ	İ
 L92A:				 	l I		 	 		 			 
Darfur	78	0-9	1 14-18	  1.20-1.35	   4.00-14.00	0.20-0.22	0.0-2.9	   5.0-8.0	.20	.20	l   5	l   5	I   56
į	i	9-19	14-18	1.20-1.35	4.00-14.00	0.20-0.22	0.0-2.9	2.0-6.0	.20	.20	i	i	i
į	i	19-31	13-18	1.35-1.50	14.00-42.00	0.15-0.17	0.0-2.9	0.2-0.8	.20	.20	i	i	i
j	į	31-60	5-15	1.45-1.60	14.00-42.00	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20	į	į	İ
											_		
Fieldon	10	0-19			4.00-14.00	0.18-0.20		5.0-8.0	.28	.28	4	4L	86
 		19-37			4.00-14.00	0.15-0.17		0.2-0.8	.20	.20	!		
I I		37-60	2-12	1.40-1.60 	42.00-141.00 	0.05-0.07	0.0-2.9 	0.0-0.5 	.20	.20 	 	 	 
Litchfield	5	0-20	5-10	1.30-1.50	42.34-141.14	0.10-0.12	0.0-2.9	1.5-3.0	.17	.17	4	2	134
Į.		20-33	5-10	1.40-1.65	14.11-42.34	0.07-0.16	0.0-2.9	0.5-1.0	.17	.17			
ļ.		33-40	10-20	1.15-1.30	4.23-14.11	0.22-0.24	0.0-2.9	0.2-0.8	.32	.32			
!		40-80	1-8	1.45-1.65	42.34-141.14	0.08-0.10	0.0-2.9	0.1-0.5	.17	.17	ļ	!	ļ.
   Webster	5 I	   0-19	   26-35	  1 35_1 40	   4.00-14.00	  0.19-0.21	30-50	   4.0-7.0	1.24	   .24	   5	   6	   48
Membret	ا د	19-26			4.00-14.00	0.19-0.21		0.8-2.5	1 .32	32	l a	1	±0 
ļ		26-60			4.00-14.00	0.15-0.19	•	0.1-0.5	.32	37			! 
	i			İ	İ	İ	İ		i	į	į	i	į
Dassel	2	0-6			14.00-42.00	0.18-0.24	•	3.0-20	.20	.20	4	5	56
ļ		6-23		•	14.00-42.00	0.18-0.24	•	3.0-8.0	.20	.20	ļ	ļ.	ļ
!		23-31			14.00-42.00	0.12-0.17		0.5-2.0	.20	.20	!	ļ.	ļ
		31-60	1 2-8	11.45-1.65	42.00-141.00	0.08-0.10	1 0.0-2.9	0.0-0.5	.20	.20	1	1	1

Map symbol and	Pct. of	Depth	   Clay	   Moist	   Saturated	  Available		   Organic	Erosi	on fact	ors	erodi-	
component name	map unit			bulk	hydraulic	water	extensi-	matter				bility	
				density	conductivity	capacity	bility		Kw	Kf	T	group	index
		In	Pct	g/cc	um/sec	In/in	Pct	Pct					
L93A:			 	! 	 	 	! 	! 				 	 
Muskego	82	0-16	0-0	0.10-0.21	4.23-42.34	0.35-0.45		60-90	.10	.10	1	2	134
		16-76	18-35	0.30-1.10	0.00-1.00	0.18-0.24	3.0-5.9	6.0-20	.28	.28			
		76-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Blue Earth	10	0-10	   18-32	  0.20-0.80	4.00-14.00	0.18-0.24	3.0-5.9	   10-25	.28	   .28	5	   6	   48
		10-68	18-32	0.20-0.80	4.00-14.00	0.18-0.24	0.0-2.9	10-20	.28	.28			
		68-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Mineral soil, drained	5	0-13	   25-27	  1.35-1.45	   4.23-14.11	0.18-0.22	   3.0-5.9	   5.0-10	.28	   .28	5	   6	   48
		13-31	18-35	1.35-1.45	1.41-14.11	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		31-45	15-35	1.35-1.50	1.41-14.11	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		45-80	15-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Belleville	3	0-11	   12-18	  1.30-1.50	  14.11-42.34	0.13-0.18	   0.0-2.9	   3.0-6.0	.20	   .20	3	3	   86
		11-27	2-12	1.40-1.55	42.34-141.14	0.04-0.12	0.0-2.9	0.1-0.5	.17	.17			
		27-48	20-30	1.45-1.70	1.41-4.23	0.12-0.20	3.0-5.9	0.1-0.5	.32	.32			
		48-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L94A:			 	! 	 	 	! 	! 				 	 
Lowlein	75	0-18	10-18	1.30-1.50	14.00-42.00	0.13-0.15	0.0-2.9	2.5-4.0	.20	.20	5	3	86
		18-27	10-18	1.35-1.45	14.00-42.00	0.12-0.14	0.0-2.9	0.5-1.0	.24	.24			
		27-46	8-12	1.35-1.45	14.00-42.00	0.12-0.14	0.0-2.9	0.5-1.0	.24	.24			
		46-72	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		72-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Linder	15	0-15	   14-20	  1.40-1.45	4.00-14.00	0.20-0.22	0.0-2.9	3.0-4.0	.24	.24	4	5	   56
		15-29	10-18	1.45-1.55	14.00-42.00	0.15-0.17	0.0-2.9	0.0-0.5	.24	.24			
		29-60	2-8	1.55-1.75	141.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.10	.20			
Dickinson	8	0-14	   10-18	  1.50-1.55	114.00-42.00	0.12-0.15	0.0-2.9	1.0-2.0	.20	.20	4	3	   86
		14-39	10-15	1.45-1.55	14.00-42.00	0.12-0.15	0.0-2.9	0.2-0.8	.17	.17			
		39-60	4-10	1.60-1.70	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	1.15	1.15			
Darfur	2	0-9	   14-18	  1.20-1.35	   4.00-14.00	0.20-0.22	0.0-2.9	   5.0-8.0	.20	   .20	   5	   5	   56
		9-19	14-18	1.20-1.35	4.00-14.00	0.20-0.22	0.0-2.9	2.0-6.0	.20	.20			
		19-31	13-18	1.35-1.50	14.00-42.00	0.15-0.17	0.0-2.9	0.2-0.8	.20	.20			
		31-60	5-15	1.45-1.60	14.00-42.00	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20			
L95E:			 	 	 		 	 					
Hawick	80	0-7	7-12	1.50-1.65	14.11-141.14	0.03-0.13	0.0-2.9	1.0-3.0	.10	.15	5	8	134
	l	7-10	1-10	1.50-1.65	42.34-141.14	0.03-0.10	0.0-2.9	0.0-0.5	.10	.15			
İ	l I	10-60	1-5	11.55-1.65	141.14-282.29	0.02-0.06	0.0-2.9	0.0-0.5	1.10	.15		1	

Table 15.--Physical Properties of the Soils--Continued

Table 15.--Physical Properties of the Soils--Continued

Man grmb-1	   Data -	   Dorth	   01	   Woden			   Times==	0====================================	Erosi	on fac	tors	•	Wind
Map symbol and component name	Pct. of     map unit	Depth	Clay	Moist   bulk	Saturated   hydraulic	Available   water	Linear  extensi-	Organic matter	ļ	1		erodi-	,
component name	map unit		 		nydraulic  conductivity	water  capacity	extensi-   bility	matter	l l Kw	   Kf		bility  group	
	l	l   In	l   Pct	density   g/cc	um/sec	In/in	Pct	l Pct	l ww	   <u>   </u>	<u> </u>	laromb I	l
	i i			3, 22		,			i	<u> </u>	i	i	İ
L95E:				l			I						
Estherville	10	0-8				0.13-0.18		1.5-3.0	.20	.20	3	3	86
		8-13				0.13-0.18		0.1-0.8	.20	.20			
		13-60	0-8	1.50-1.65	42.34-444.60	0.02-0.04	0.0-2.9	0.0-0.5	.10	1.10			
Tomall	   10	   0-33	   12-20	  1.25-1.40	4.23-14.11	0.20-0.24	0.9-3.2	4.0-9.0	.28	.28	   5	   5	56
	j j	33-42	10-18	1.40-1.60	4.23-14.11	0.15-0.19	0.9-4.2	0.2-1.0	.28	.28	İ	İ	İ
	j j	42-47	2-10	1.40-1.60	42.34-282.29	0.02-0.05	0.1-0.5	0.1-0.5	.05	.15	İ	İ	İ
		47-80	2-10	1.40-1.60	42.34-282.29	0.02-0.05	0.1-0.5	0.0-0.5	.05	.15	į	į	į
L96B:	 	 	l I	l I	 	 	 	 	l I	 	 	l I	 
Estherville	   55	0-13	   5-15	  1.25-1.35	14.00-42.00	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
	j j	13-18	10-18	1.35-1.60	14.00-42.00	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20	İ	İ	İ
	j j	18-23	0-8	1.50-1.65	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10	İ	İ	İ
		23-60	0-8	1.50-1.65	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10	į	į	į
Hawick	l 35 l	l l 0-7	   2-10	  1.50-1.65	  14.11-141.14	  0.03-0.13	   0.0-2.9	1.0-3.0	1.10	   .15	l I5	   8	l l 86
		7-80			141.14-282.29			0.0-0.5	.10	1.15			
Tomall	   8	   0-33	   12-20	  1 25_1 40	   4.23-14.11	  0.20-0.24	0 0-3 2	4.0-9.0	1 .28	   .28	   5	   5	   56
Tomati	,	33-42				0.15-0.19		0.2-1.0	1 .28	1 .28	1		1 30
		42-47				0.02-0.05		0.1-0.5	1.05	1.15			:
		47-80				0.02-0.05		0.0-0.5	.05	1 .15			İ
						İ	İ	İ			į.	İ	
Biscay	2	0-20	•	•		0.20-0.22		4.0-8.0	.28	.28	4	6	48
		20-28			•	0.17-0.19	•	0.5-1.0	.28	.28	ļ	!	ļ
	 	28-36   36-60		•	1	0.11-0.17 0.02-0.04		0.5-1.0	.28	.32	 	l I	l I
	i i	30 00	10							•=•		i	
L97C:						1	I	[	1				
Hawick	60	0-7			14.11-141.14			1.0-3.0	.10	.15	5	8	134
		7-80 	1-5 	1.55-1.65	141.14-282.29	0.02-0.06	0.0-2.9	0.0-0.5	.10	1.15			l i
Estherville	30	   0-13	   5-15	  1.25-1.35	  14.00-42.00	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	   3	3	   86
	l İ	13-18	10-18	1.35-1.60	14.00-42.00	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
	İ	18-23	0-8	1.50-1.65	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10	ĺ	İ	İ
	ļ	23-60	0-8	1.50-1.65	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10	ļ		ļ
Tomal1	   10	   0-33	   12-20	  1.25-1.40	   4.23-14.11	  0.20-0.24	   0.9-3.2	   4.0-9.0	1 .28	   .28	   5	   5	   56
	, =- 	33-42				0.15-0.19		0.2-1.0	.28	.28	į	i -	i
	į i	42-47				0.02-0.05			.05	1.15	i	i	i
	j i	47-80				0.02-0.05			.05	1.15	i	i	i
	j i	İ	į	j	İ	i	j	i	i	i	i	i	į

Map symbol and	Pct. of	Depth	   Clay	   Moist	   Saturated	  Available	   Linear	   Organic	Erosio	n fac	tors	Wind  erodi-	Wind  erodi
component name	map unit		ĺ	bulk	hydraulic	water	extensi-	matter	İ I			bility	bilit
			L	density	conductivity	capacity	bility	L	Kw	Kf	Т	group	index
	!	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
L98A:			 	 	 	 	 	 				 	
Crippin	50	0-15			4.00-14.00	0.20-0.22		5.0-6.0	.24	.24	5	4L	86
l		15-27			4.00-14.00	0.17-0.19		0.8-2.5	.28	.28			
		27-60	20-30 	1.35-1.55 	4.00-14.00	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37		 	
Nicollet	40	0-17	27-35	  1.15-1.25	4.00-14.00	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	6	48
l		17-33		•	4.00-14.00	0.15-0.19		0.8-2.0	.32	.32			
		33-36			4.00-14.00	0.15-0.19		0.2-0.8	.32	.32	ļ	ļ	!
		36-60	20-30 	1.35-1.55 	4.00-14.00	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37		l I	 
Canisteo	5	0-18	27-35	  1.25-1.35	4.00-14.00	0.18-0.22	3.0-5.9	4.0-7.0	.24	.24	5	   4L	86
I	l	18-39			4.00-14.00	0.15-0.19			.32	.32			
		39-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Clarion	5	0-14	   20-27	  1.30-1.55	4.00-14.00	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	   6	48
İ	j	14-33	23-30	1.30-1.55	4.00-14.00	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37	İ	İ	į
	ļ	33-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		ļ	
L99B:			l I	 	 	 	 	 				l I	 
Clarion	62	0-14	20-27	1.30-1.55	4.00-14.00	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	6	48
İ	İ	14-33	23-30	1.30-1.55	4.00-14.00	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37	ĺ	İ	İ
		33-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Swanlake	25	0-9	   18-27	  1.35-1.45	4.00-14.00	0.20-0.24	0.0-2.9	2.0-4.0	.28	.28	5	   4L	   86
İ	j	9-43	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	İ	İ	į
		43-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		ļ	
Nicollet	10	0-17	   27-35	  1.15-1.25	   4.00-14.00	0.17-0.22	   3.0-5.9	4.0-8.0	.24	.24	   5	   6	   48
İ	j	17-33	25-35	1.25-1.35	4.00-14.00	0.15-0.19	3.0-5.9	0.8-2.0	.32	.32	İ	İ	į
I		33-36	25-35	1.25-1.35	4.00-14.00	0.15-0.19	3.0-5.9	0.2-0.8	.32	.32			
	ļ	36-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Webster	3	0-19	   26-35	  1.35-1.40	4.00-14.00	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	   6	48
İ	İ	19-26	25-35	1.40-1.50	4.00-14.00	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32	ĺ	İ	İ
	ļ	26-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		ļ	
L100B:			l I	 	 	 	 	 				l I	 
Clarion	45	0-14	20-27	1.30-1.55	4.00-14.00	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	6	48
İ	j	14-33	23-30	1.30-1.55	4.00-14.00	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37	İ	İ	į
	İ	33-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
  Estherville	35 I	0-13	   5-15	  1.25-1.35	  14.00-42.00	0.13-0.18	   0.0-2.9	2.0-4.0	.20	.20	3	   3	   86
į	i	13-18	10-18	1.35-1.60	14.00-42.00	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20	İ	İ	į
i	i	18-23	0-8	1.50-1.65	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	1.10	.10	ĺ	İ	İ
i	i	23-60	I 0_0	11 50-1 65	42.00-141.00	0.02-0.04	1 0 0-2 0	0.0-0.5	i .10 i	.10	1	I	I

Table 15.--Physical Properties of the Soils--Continued

Table 15.--Physical Properties of the Soils--Continued

14-2   24-3   31-6	   Clay	1 7 1 7	Moist bulk	Saturated hydraulic	  Available    water	Linear extensi-	Organic matter	Erosic	on fact		Wind erodi- bility	erodi-
L100B: Lowlein	l l	map unit		_	capacity	bility	matter	Kw	   Kf		group	
Lowlein	Pct	In   Pct	g/cc	um/sec	In/in	Pct	Pct	KW	KI	1	group	Index
14-2   24-3   31-6					 			 				 
24-3   31-6   Nicollet	10-18	5   0-14   10-1	1.30-1.50	14.00-42.00	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	5	3	86
Nicollet	10-18	14-24   10-1	1.35-1.45	14.00-42.00	0.12-0.14	0.0-2.9	1.0-2.0	.24	.24			
Nicollet	1-10	24-31   1-1	1.55-1.65	42.00-141.00	0.06-0.11	0.0-2.9	0.0-1.0	.15	.15			
17-3   33-3   36-6	20-30	31-60   20-3	1.35-1.55	4.00-14.00	0.15-0.19  	1.0-4.2	0.1-0.5	32	.37			 
33-3   36-6					  0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	6	48
36-6   Swanlake					0.15-0.19		0.8-2.0	.32	.32			
Swanlake					0.15-0.19		0.2-0.8	.32	.32			
9-4   43-6     43-6       43-6	20-30	36-60   20-3	1.35-1.55	4.00-14.00	0.15-0.19  	1.0-4.2	0.1-0.5	32	.37	İ		 
43-6   Webster	18-27	5   0-9   18-2	1.35-1.45	4.00-14.00	0.20-0.24	0.0-2.9	2.0-4.0	.28	.28	5	4L	86
Webster	20-30	9-43   20-3	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		İ	İ
L101C2:  Omsrud, eroded 40 0-9	20-30	43-60   20-3	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			İ
L101C2:  Omsrud, eroded	   26-35	5   0-19   26-3	1.35-1.40	4.00-14.00	  0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	   48
L101C2:  Omsrud, eroded 40	25-35	19-26   25-3	1.40-1.50	4.00-14.00	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			ĺ
Omsrud, eroded 40 0-9	20-30	26-60   20-3	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
9-1   19-3   36-8					! 			 				 
19-3   36-8	20-26	40   0-9   20-2	1.35-1.45	4.23-14.11	0.20-0.22	0.0-2.9	2.0-4.0	.24	.24	5	6	48
Hawick	22-30	9-19   22-3	1.35-1.50	4.23-14.11	0.17-0.19	0.0-2.9	0.5-2.0	.32	.32			
Hawick	20-30	19-36   20-3	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Storden, eroded 20	20-30	36-80   20-3	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			 
Storden, eroded 20 0-7	2-10	30   0-7   2-1	1.50-1.65	14.11-141.14	  0.03-0.13	0.0-2.9	1.0-3.0	1 .10	.15	5	8	134
Delft	1-5	7-80   1-5	1.55-1.65	141.14-282.29	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			
Delft	1 18-27	20   0-7   18-2	1.35-1.45	4.23-14.11	  0.20-0.22	0.0-2.9	1.0-2.0	   .28	   .28	5	4L	   86
Delft	20-30	7-55   20-3	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			ĺ
37-5   50-6   Terril 5   0-2   27-4   40-6   63-8	20-30	55-80   20-3	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril	25-35	5   0-37   25-3	1.40-1.65	1.00-4.00	  0.18-0.20	3.0-5.9	4.0-8.0	.24	.24	5	6	   48
Terril	20-32	37-50   20-3	1.30-1.40	4.00-14.00	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32			
27-4   40-6   63-8 	20-30	50-60   20-3	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
40-6     63-8 	1 18-26	5   0-27   18-2	1.35-1.40	4.23-14.11	  0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	   48
63-8       L101D2:	24-30	27-40   24-3	1.40-1.45	4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
L101D2:	22-30	40-63   22-3	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
	20-30	63-80   20-3	1.35-1.55	4.00-14.00	0.15-0.19  	1.0-4.2	0.1-0.5	32	.37			 
	i				 		1 				 	i İ
	20-26	40   0-9   20-2	1.35-1.45	4.23-14.11	0.20-0.22	0.0-2.9	2.0-4.0	.24	.24	5	6	48
9-1	22-30	9-19 22-3	1.35-1.50	4.23-14.11	0.17-0.19	0.0-2.9	0.5-2.0	.32	.32			İ
19-3	20-30	19-36   20-3	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			l
36-8	20-30	36-80   20-3	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Map symbol and	Pct. of	   Depth	   Clay	   Moist	   Saturated	  Available	   Linear	   Organic	Erosio	on fac	tors		Wind  erodi-
component name	map unit  	 	 	bulk   density	hydraulic conductivity		extensi-   bility	matter	   Kw	К£	   T	bility  group	
		In	Pct	g/cc	um/sec	In/in	Pct	Pct	İ		İ		
L101D2:	 	 	 	 	 	 	 	 					 
Hawick	25	0-7	2-10	1.50-1.65	14.11-141.14	0.03-0.13	0.0-2.9	1.0-3.0	1.10	.15	5	8	134
	 	7-80 	1-5 	1.55-1.65	141.14-282.29	0.02-0.06	0.0-2.9	0.0-0.5	1.10	.15			
Storden, eroded	20	0-7	   18-27	1.35-1.45	4.23-14.11	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	5	4L	86
		7-55	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
	 	55-80 	20-30 	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ridgeton	6	   0-23	   18-26	  1.35-1.40	4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		23-38				0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		38-50				0.16-0.18		0.8-2.5	.32				
	 	50-80 	20-30 	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Delft	5	0-37	   25-35	1.40-1.65	1.00-4.00	0.18-0.20	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		37-50	20-32	1.30-1.40	4.00-14.00	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32			
	 	50-60 	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril	   4	   0-27	   18-26	  1.35-1.40	4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63		•		0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
	 	63-80 	20-30 	1.35-1.55 	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			 
L102C2:		İ			İ		İ	İ	i		i	i	
Omsrud, eroded	45	0-9	20-26	1.35-1.45	4.23-14.11	0.20-0.22	0.0-2.9	2.0-4.0	.24	.24	5	6	48
		9-19			1	0.17-0.19		0.5-2.0	.32	.32		!	
		19-36				0.15-0.19		0.1-0.5	.32	.37	ļ	!	ļ
	] [	36-80 	20-30 	1.35-1.55 	4.00-14.00	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37			 
Storden, eroded	25	0-7				0.20-0.22		1.0-2.0	.28	.28	5	4L	86
		7-55		•		0.15-0.19			.32	.37		!	
	 	55-80 	20-30 	1.35-1.55 	4.00-14.00	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37	 		 
Omsrud	15	0-12	20-26	1.35-1.45	4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	1	.24	5	6	48
		12-16				0.17-0.19		0.5-2.0	.32	.32		!	
		16-32				0.15-0.19			.32	.37	ļ	!	ļ
	 	32-60 	20-30 	1.35-1.55 	4.00-14.00 	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37			 
Terril	10	0-27		•		0.20-0.22		3.0-5.0			5	6	48
		27-40			•	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63		•		0.16-0.18		0.0-1.0	.32	.32		!	
	] [	63-80 	20-30 	1.35-1.55 	4.00-14.00 	0.15-0.19 	1.0-4.2 	0.1-0.5	.32	.37	 		 
Delft	5	0-37				0.18-0.20		4.0-8.0	1	.24	5	6	48
	<u> </u>	37-50			1	0.19-0.22		0.5-2.0	.32	.32	ļ	!	
		50-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	ļ	ļ	ļ
		l		1									

Table 15.--Physical Properties of the Soils--Continued

Table 15.--Physical Properties of the Soils--Continued

Map symbol and component name	   Pct. of     map unit	Depth	   Clay 	   Moist   bulk	   Saturated   hydraulic	  Available   water	   Linear  extensi-	   Organic   matter	Erosi	on fac	tors 	Wind  erodi-  bility	
Component name	map unic  		l I		conductivity	capacity	bility	marrer	l Kw	l l K£	l I Tr	group	
		In	Pct	g/cc	um/sec	In/in	Pct	Pct			<u> </u>		
L102D2:	 		 	 	 		 	 		 	 	 	 
Omsrud, eroded	45	0-9	20-26	1.35-1.45	4.23-14.11	0.20-0.22	0.0-2.9	2.0-4.0	.24	.24	5	6	48
-	i i	9-19	22-30	1.35-1.50	4.23-14.11	0.17-0.19	0.0-2.9	0.5-2.0	.32	.32	i	i	i
	i i	19-36	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	i	i	i
	į	36-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
Storden, eroded	   20	0-7	   18-27	  1.35-1.45	   4.23-14.11	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	   5	   4L	   86
	j i	7-55	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	İ	İ	İ
	į	55-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
Omsrud	   15	0-12	   20-26	  1.35-1.45	   4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	   5	   6	   48
		12-16	22-30	1.35-1.50	4.23-14.11	0.17-0.19	0.0-2.9	0.5-2.0	.32	.32			
		16-32	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		32-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ridgeton	   8	0-23	   18-26	  1.35-1.40	   4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	   5	   6	   48
		23-38	24-30	1.40-1.45	4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		38-50	22-30	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.8-2.5	.32	.32			
		50-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Delft	   6	0-37	   25-35	  1.40-1.65	1.00-4.00	0.18-0.20	3.0-5.9	4.0-8.0	.24	.24	   5	   6	   48
		37-50	20-32	1.30-1.40	4.00-14.00	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32			
	 	50-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril	   6	0-27	   18-26	  1.35-1.40	   4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	   6	48
		27-40	24-30	1.40-1.45	4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
	 	63-80	20-30	1.35-1.55 	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		 	 
L103A:				 	İ		İ	İ		i	İ		
Fieldon	50	0-19			4.00-14.00	0.18-0.20			.28	.28	4	4L	86
		19-37			4.00-14.00	0.15-0.17		0.2-0.8	.20	.20			
	 	37-60	5-15 	1.40-1.60 	42.00-141.00 	0.05-0.07	0.0-2.9	0.0-0.5	.20	1 .20	 	 	 
Canisteo	35	0-18			4.00-14.00	0.18-0.22		4.0-7.0	.24	.24	5	4L	86
		18-39			4.00-14.00	0.15-0.19		0.5-1.0	.32	.32	!	!	!
	 	39-80	20-30 	1.35-1.55 	4.00-14.00 	0.15-0.19 	1.0-4.2	0.1-0.5	.32	37	 	 	 
Darfur	10	0-9			4.00-14.00	0.20-0.22			.20	.20	5	5	56
		9-19			4.00-14.00	0.20-0.22		2.0-6.0	.20	.20	ļ	!	!
		19-31	'	•	14.00-42.00	0.15-0.17		0.2-0.8	.20	.20	ļ	!	!
	 	31-60	5-15 	1.45-1.60 	14.00-42.00	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20		 	[ 
	1		I	I	I	1	1	I	1	I	1	I	I

Map symbol and	Pct. of	   Depth	   Clay	   Moist	   Saturated	  Available	   Linear	   Organic	Erosi	on fac	tors	Wind  erodi-	Wind  erodi
component name	map unit			bulk	hydraulic	water	extensi-	matter				bility	bility
			L	density	conductivity	capacity	bility	L	Kw	Kf	Т	group	index
		In	Pct	g/cc	um/sec	In/in	Pct	Pct					
L103A:				į		į	<u> </u>	į					
Glencoe	5	0-10				0.18-0.22		5.0-10	.28	.28	5	6	48
		10-35	•	•		0.18-0.22		2.0-5.0	.28	.28	!	ļ	ļ
		35-48	•		1	0.15-0.19		0.5-2.0	.28	.28	!		!
		48-60 	20-30 	1.35-1.55 	4.00-14.00 	0.15-0.19 	1.0-4.2 	0.1-0.5	.32	37	 	 	 
L105C2:		j	İ	İ	İ	İ	İ	İ	İ	į	į	į	į
Lester, eroded	45	0-7	20-27	1.30-1.40	4.23-14.11	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		7-38	24-32	1.45-1.55	4.23-14.11	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		38-60				0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80 	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Hawick	35	   0-7	   2-10	  1.50-1.65	  14.11-141.14	0.03-0.13	0.0-2.9	1.0-3.0	1 .10	1 .15	   5	8	134
		7-80	1-5	1.55-1.65	141.14-282.29	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15		I	
Terril	10	   0-27	   18-26	  1.35-1.40	4.23-14.11	  0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	   5	   6	   48
		27-40	24-30	1.40-1.45	4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28	İ	İ	İ
		40-63	22-30	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32	İ	İ	İ
		63-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		ļ	
Hamel	5	   0-24	   20-27	  1.30-1.40	   4.23-14.11	  0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	   5	   6	   48
		24-46	24-35	1.45-1.60	1.41-4.23	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		46-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Storden, eroded	5	   0-7	   18-27	  1.35-1.45	4.23-14.11	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	   5	   4L	   86
		7-55	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		55-80 	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L105D2:		 	 	 	! 	 	 	 					! 
Lester, eroded	45	0-7				0.20-0.22		1.0-3.0	.28	.28	5	6	48
		7-38	•		1	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		38-60				0.15-0.19			.32	.37	ļ	!	ļ
	İ	60-80 	20-30 	1.35-1.55 	4.00-14.00	0.15-0.19 	1.0-4.2	0.1-0.5	.32	.37 	 	 	 
Hawick	35	0-7	2-10	1.50-1.65	14.11-141.14	0.03-0.13	0.0-2.9	1.0-3.0	.10	.15	5	8	134
		7-80	1-5	1.55-1.65	141.14-282.29	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15	į	į	į
Ridgeton	8	   0-23	   18-26	  1.35-1.40	   4.23-14.11	  0.20-0.22	   0.0-2.9	   3.0-5.0	.24	.24	   5	   6	   48
_	İ	23-38	24-30	1.40-1.45	4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28	i	i	i
		38-50	22-30	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.8-2.5	.32	.32	İ	İ	İ
		50-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
Hamel	5	   0-24	   20-27	  1.30-1.40	   4.23-14.11	  0.20-0.24	   0.0-2.9	   5.0-7.0	1 .28	1 .28	   5	   6	   48
<del>-</del>	-	24-46	•		1	0.16-0.19		1.0-4.0	.28	.28	į	i -	i
		46-80				0.15-0.19		0.1-0.5	.32	37	i	i	i
		İ	į	İ	İ	İ	İ	į	į	į	į	i	i

Table 15.--Physical Properties of the Soils--Continued

Table 15.--Physical Properties of the Soils--Continued

Map symbol and	Pct. of	Depth	   Clay	   Moist	   Saturated	  Available		   Organic	Erosi	on fact		Wind  erodi-	erodi.
component name	map unit		!	bulk	hydraulic	water	extensi-	matter	!	_		bility	
			<u> </u>		<u> </u>	capacity	bility	<u> </u>	Kw	Kf	T	group	index
		In	Pct	g/cc	um/sec	In/in	Pct	Pct	!			 	 
L105D2:	 		 	 	 	 	 	 	1	i i	l I	l I	 
Storden, eroded	I 5 I	0-7	18-27	1.35-1.45	4.23-14.11	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	5	4L	I 86
	i	7-55	•	•	4.00-14.00	0.15-0.19		0.1-0.5	.32	.37	i -	i	
	, 	55-80			4.00-14.00	0.15-0.19		0.1-0.5	.32	.37		İ	İ
Terril	   2	   0-27	   18-26	  1 35_1 40	   4.23-14.11	0.20-0.22	0 0-2 9	   3.0-5.0	1.24	   .24	   5	   6	   48
161111	<del>*</del>	27-40	•	•	4.23-14.11	0.17-0.19		2.0-4.0	1 .28	1 .28	1		<del>1</del> 0
		40-63	•	•	4.23-14.11	0.16-0.18		0.0-1.0	1.32	32	 	! !	 
		40-63   63-80	•	•	4.00-14.00	0.15-0.19		0.1-0.5	.32	37	l I	l I	l I
		03 00	20 30						.52	•37	i	i	i
L106C2:	į į	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
Lester, eroded	62	0-7	20-27	1.30-1.40	4.23-14.11	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
		7-38	24-32	1.45-1.55	4.23-14.11	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		38-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		60-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		ļ	
Storden, eroded	l 20 I	l l 0-7	   18-27	  1.35-1.45	   4.23-14.11	0.20-0.22	   0.0-2.9	1.0-2.0	l l .28	l   .28	l I5	   4L	l I 86
	i i	7-55	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	i	i	i
		55-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
Terril	   10	   0-27	   18-26	  1.35-1.40	   4.23-14.11	0.20-0.22	0.0-2.9	   3.0-5.0	1.24	   .24	   5	   6	   48
	·	27-40			4.23-14.11	0.17-0.19	!	2.0-4.0	1 .28	.28	-	İ	i
	i	40-63	•	•	4.23-14.11	0.16-0.18		0.0-1.0	1.32	.32	<u>'</u>	i	¦
	i i	63-80	•	•	4.00-14.00	0.15-0.19		0.1-0.5	.32	.37		į	
**1	   5												
Hamel		0-24			4.23-14.11   1.41-4.23	0.20-0.24		5.0-7.0	28	.28   .28	5	6	48
		24-46   46-80	•	•	1.41-4.23	0.16-0.19		0.1-0.5	1.32	1 .28	l I	l I	l I
	i	<del>1</del> 0-00	20-30 	1.55-1.55 	1.25-11.11		1.0-4.2	0.1-0.5	.52	.s,	İ	! 	i
Reedslake	3	0-12	20-26	1.30-1.40	4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		12-26	22-32	1.40-1.50	4.23-14.11	0.15-0.19	3.0-5.9	0.5-2.0	.32	.32		I	
		26-48	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		48-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	ĺ	ĺ	
L106D2:	 	 	 	 	I 	 	 	! 		 	 	 	 
Lester, eroded	62	0-7	20-27	1.30-1.40	4.23-14.11	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
	į i	7-38	24-32	1.45-1.55	4.23-14.11	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28	İ	İ	İ
	į į	38-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	İ	İ	İ
	į	60-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
Storden, eroded	   20	   0-7	   18-27	  1.35=1.45	   4.23-14.11	0.20-0.22	0.0-2.9	1.0-2.0	1 .28	   .28	   5	   4L	   86
croada - 3-1-	, 20   	l 7-55	•	•	4.00-14.00	0.15-0.19		0.1-0.5	1.32	37	, ,	, 	, 30 I
		7-33   55-80			4.00-14.00	0.15-0.19		0.1-0.5	32	37	i I	! 	! 
	 	33-00 	20-30 		1.00-14.00		1.0-1.2	0.1-0.5	.52	.5,	i	İ	i i

Map symbol and	Pct. of	   Depth	   Clay	   Moist	   Saturated	  Available		   Organic	Erosi	on fac	tors	erodi-	Wind  erodi-
component name	map unit		!	bulk	hydraulic	water	extensi-	matter	!		ļ	bility	-
					conductivity	capacity	bility		Kw	Kf	T	group	index
		In 	Pct	g/cc I	um/sec	In/in	Pct 	Pct				 	 
L106D2:		İ		İ	İ	İ	İ			i	i		
Ridgeton	10	0-23			4.23-14.11	0.20-0.22		3.0-5.0	.24		5	6	48
		23-38			4.23-14.11	0.17-0.19		2.0-4.0	.28	.28			
		38-50			4.23-14.11	0.16-0.18		0.8-2.5	.32	.32			
		50-80 	20-30 	1.35-1.55 	4.00-14.00	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37 	 	 	 
Terril	5	0-27	   18-26	1.35-1.40	4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63			4.23-14.11	0.16-0.18		0.0-1.0	.32				
		63-80 	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			 
Hamel	3	   0-24	   20-27	1 1.30-1.40	   4.23-14.11	0.20-0.24	0.0-2.9	5.0-7.0	.28	.28	5	   6	48
		24-46	24-35	1.45-1.60	1.41-4.23	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28			
		46-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		!	ļ
L107A:		 	 	 	 	 	 	 	 	l I	 	 	 
Canisteo	50	0-18	27-35	1.25-1.35	4.00-14.00	0.18-0.22	3.0-5.9	4.0-7.0	.24	.24	5	4L	86
		18-39	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32	İ	İ	İ
		39-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
Glencoe	l l 35	   0-10	   27-35	  1.35-1.45	   1.00-14.00	10.18-0.22	   3.0-5.9	   5.0-10	1 .28	   .28	   5	l l 6	   48
		10-35			1.00-14.00	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28	i	i	i
	i	35-48	25-35	1.35-1.50	1.00-14.00	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28	i	i	i
		48-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	
Harps	   10	   0-13	   27-35	  1.35-1.40	   4.23-14.11	  0.19-0.21	   3.0-5.9	3.0-5.0	1.24	1.24	   5	   4L	   86
		13-30			4.00-14.00	0.15-0.19		0.1-0.5	.32	.37	i	i	"
		30-60			4.00-14.00	0.15-0.19		0.1-0.5	.32	.37	i	i	i
Canisteo,		 		 	 		  -						 
depressional	l I 3	I   0-17	   27_32	  1 25_1 35	   4.00-14.00	0.18-0.22	   3 N=5 9	4.0-8.0	.24	.24	l I 5	I I 4т.	l l 86
depressionar	]	17-30			1 4.00-14.00	0.15-0.19		2.0-4.0	32	32	1	10	1 00
		30-60			4.00-14.00	0.15-0.19		0.1-0.5	32			i	İ
and and a													
Crippin	2	0-15			4.00-14.00	0.20-0.22			.24	.24	5	4L	86
		15-27   27-60			4.00-14.00   4.00-14.00	0.17-0.19  0.15-0.19		0.8-2.5	1.28	.28   .37	 	l I	l I
		2, -00	20-50				1.0-1.2		.52	.,,			
L108A:	65										-		
Cordova	65	0-18			1.41-4.23	0.18-0.22		4.0-7.0	.28	.28	5	6	48
		18-38			1.41-4.23	0.15-0.19		1.0-4.0	.28	.28	!	!	
		38-80 	∠0-30 	1.35-1.55	4.00-14.00 	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37 	 		 
		1	1	1	1	1		1	1	1		1	1

Table 15.--Physical Properties of the Soils--Continued

Table 15.--Physical Properties of the Soils--Continued

Map symbol and	Pct. of	Depth	   Clay	Moist	Saturated	  Available		   Organic	Erosi	on fac		erodi-	
component name	map unit			bulk	hydraulic	water	extensi-	matter	!	!		bility	
						capacity	bility	<u> </u>	Kw	Kf	T	group	index
	 	In	Pct 	g/cc	um/sec	In/in	Pct 	Pct 		l i	 	 	 
L108A:	i i					<u> </u>	İ	İ	i	İ	İ	į	<u> </u>
Rolfe	30	0-12				0.22-0.24	•	3.0-5.0	.37	.37	5	6	48
!		12-20	22-27	1.40-1.50	4.23-14.11	0.22-0.24	0.0-2.9	1.0-2.0	.28	.28			
1		20-35			0.42-1.41	0.11-0.13		1.0-2.0	.28	.28			
,		35-51			1.41-14.11	0.14-0.16		0.0-1.0	.28	.28			
ļ		51-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			 
Le Sueur		0-17	28-30	  1.50-1.70	4.23-14.11	0.17-0.20	   3.0-5.9	3.0-7.0	.24	.24	   5	   6	   48
i	j j	17-37	24-35	1.30-1.45	4.23-14.11	0.15-0.19	3.0-5.9	0.5-2.0	.32	.32	İ	İ	İ
İ	j j	37-46	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	İ	İ	İ
		46-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	İ	ĺ
L109A:	 		İ			 	l I	l I		l I	 	l I	 
Marna	l 65 I	0-20	35-50	1.20-1.30	0.42-1.41	0.18-0.22	6.0-8.9	4.0-8.0	.28	.28	5	   4	l   86
		20-32				0.13-0.16			.32	.32	i	i -	
	i	32-41			1.41-4.23	0.15-0.19		0.2-0.8	.28	.28	i	i	i
	j i	41-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	İ	į	į
Barbert	   30	0-7	   10_27	  1 20_1 60	4.00-14.00	  0.22-0.24	   n n_2 a	   4.0-7.0	1 .28	   .28	   5	   6	   48
Darber C	30   	7-17				0.22-0.24		0.2-0.8	1 .28	.28	1	1	<del>1</del> 0
		17-43			0.00-1.00	0.10-0.14		1.0-4.0	1 .28	.28	ŀ	! 	! !
	i i	43-60			4.00-14.00	0.22-0.24		0.1-0.8	.28	.28	İ	į	<u> </u>
Guckeen	   5	0-15	   3E 40		1.41-4.23	  0.16-0.19		   4.0-6.0	1 .28	   .28	   5	   4	   86
Guckeen	]	15-24				0.13-0.16		0.5-1.5	.28	.28	<b>&gt;</b>	<del>1</del> 	86 
ļ		24-30			0.42-4.23	0.15-0.17		0.3-1.3	37	37		 	 
 		30-60			4.00-14.00	0.15-0.19		0.1-0.5	.32	37	i	<u> </u>	! 
						İ	ĺ	ĺ	İ	į	į	İ	ĺ
L110E:											! _		
Lester	50	0-5			4.23-14.11	0.20-0.22		4.0-8.0	.28	.28	5	6	48
<u>,                                    </u>		5-34				0.15-0.19		0.5-1.0	.28	.28	!		!
<u>,                                    </u>		34-60			4.23-14.11	0.15-0.19	•	0.1-0.5	.32	.37	!		!
	 	60-80	20-30	1.35-1.55  	4.23-14.11	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37 	 	 	 
Ridgeton	30	0-32	18-26	1.35-1.40	4.23-14.11	0.20-0.22	0.0-2.9	3.0-8.0	.24	.24	5	6	48
!		32-40	22-30	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
,		40-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		ļ	
Cokato	   10	0-16	   22-27	  1.30-1.40	4.23-14.11	0.20-0.22	l   0.0-2.9	   3.0-5.0	1 .28	l   .28	l I5	l l 6	l I 48
-		16-30			4.23-14.11	0.15-0.19		1.0-2.0	.37	.37	i	i	i
	į i	30-60			4.00-14.00	0.15-0.19	•		.32	.37	į	į	į
Belview	   6	0-9	   10_27	  1 25_1 45	4.23-14.11	  0.20-0.22	0 0-2 0	3.0-5.0		   .28	   5	   4L	   86
DET ATEM	<sup>0</sup>	9-50			4.23-14.11	0.15-0.19		0.1-0.5	1 .32	37	اء	l ##	00 
	 	50-60			4.00-14.00	0.15-0.19				37		! !	I I
		20-00	20-30	± • > > - ± • > >	7.00-T4.00	10.10-0.13	1 1.0-1.2	1 0.7-0.2	1 . 32	1 .3/	1	I	I

Map symbol and	Pct. of	Depth	   Clay	   Moist	   Saturated	  Available	   Linear	   Organic	Erosi	on fac	tors	Wind  erodi-	Wind  erodi
component name	map unit			bulk	hydraulic	water	extensi-	matter				bility	bilit
			L	density	conductivity	capacity	bility	L	Kw	Kf	Т	group	index
		In	Pct	g/cc	um/sec	In/in	Pct	Pct					
L110E:			 	 	! 		 	 		 			 
Hamel	2	0-22			4.23-14.11	0.20-0.24		5.0-7.0	.28	.28	5	6	48
		22-41			1.41-4.23	0.16-0.19		1.0-4.0	.28	.28			
		41-80	20-30 	1.35-1.55 	4.23-14.11	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37 		 	 
Terril	2	0-24	   18-26	1.35-1.40	4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		24-37		•	4.23-14.11	0.17-0.19	•	2.0-4.0	.28	.28			
		37-57			4.23-14.11	0.16-0.18		0.0-1.0	.32	.32			
		57-80	20-30 	1.35-1.55 	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37 			 
L110F:					İ	İ	i İ				İ	i	
Lester	55	0-6			4.23-14.11	0.20-0.22		4.0-8.0	.28	.28	5	6	48
		6-25			4.23-14.11	0.15-0.19		0.5-1.0	.28	.28			
		25-60	20-30 	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37 			 
Ridgeton	30	0-32	   18-26	  1.35-1.40	4.23-14.11	0.20-0.22	0.0-2.9	3.0-8.0	.24	.24	5	6	48
		32-40	22-30	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		40-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Cokato	8	0-16	   22-27	  1.30-1.40	   4.23-14.11	0.20-0.22	   0.0-2.9	3.0-8.0	.28	   .28	   5	   6	   48
İ	İ	16-30	25-35	1.40-1.50	4.23-14.11	0.15-0.19	3.0-5.9	1.0-2.0	.37	.37	ĺ	İ	İ
		30-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		!	
Belview	4	0-9	   18-27	  1.35-1.45	   4.23-14.11	0.20-0.22	   0.0-2.9	3.0-8.0	.28	   .28	   5	   4L	   86
	İ	9-50	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	ĺ	İ	İ
		50-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		!	
Terril	   2	0-24	   18-26	  1.35-1.40	   4.23-14.11	0.20-0.22	   0.0-2.9	   3.0-5.0	.24	   .24	   5	   6	   48
	İ	24-37	24-30	1.40-1.45	4.23-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28	İ	İ	İ
	İ	37-57	22-30	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32	ĺ	İ	İ
		57-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		!	
Hamel	   1	0-22	   20-27	  1.30-1.40	   4.23-14.11	0.20-0.24	   0.0-2.9	   5.0-7.0	.28	   .28	   5	   6	   48
	İ	22-41	24-35	1.45-1.60	1.41-4.23	0.16-0.19	3.0-5.9	1.0-4.0	.28	.28	İ	İ	İ
		41-80	20-30	1.35-1.55	4.23-14.11	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	ĺ	ļ	İ
L111A:			 	 	 	 	 	 		 	 		 
Nicollet	85	0-10	27-35	1.15-1.25	4.23-14.11	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	7	38
i	i	10-31	25-35	1.25-1.35	4.23-14.11	0.15-0.19	•	1.0-2.0	.32	.32	į	į	į
İ	ı i	31-42	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32			
	İ	42-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Clarion	   10	0-14	   20-27	  1.30-1.55	   4.00-14.00	0.20-0.22	   0.0-2.9	   3.0-6.0	.24	   .24	   5	   6	   48
İ	į	14-33	23-30	1.30-1.55	4.00-14.00	0.17-0.19	i	0.5-1.0	.37	.37	İ	İ	İ
!	ı i	33-60	1 20 20	11 25 1 55	4.00-14.00	In 15 n 10	1.0-4.2	0.1-0.5	i .32	.37	1	I	l .

Table 15.--Physical Properties of the Soils--Continued

Table 15.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	   Clay	   Moist   bulk	   Saturated   hydraulic	  Available   water	   Linear  extensi-	   Organic   matter	Erosi	on fac		Wind  erodi-  bility	
component name	map unit		l I		conductivity	capacity	extensi-   bility	matter	l Kw	   Kf		group	
		In	Pct	g/cc	um/sec	In/in	Pct	Pct	Kw			 	
L111A:			 	 	 		 					 	
Webster	5 I	0-24	l 26-35	  1.35-1.40	4.00-14.00	0.19-0.21	l 3.0-5.9	i	.24	.24	5	6	l 48
		24-45			4.00-14.00	0.16-0.18		0.8-2.5	.32	.32	i	i	i
	į	45-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
L112A:			 			 	 	! 		l I	 	 	 
Webster	85	0-24	26-35	1.35-1.40	4.00-14.00	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
	l l	24-45	25-35	1.40-1.50	4.00-14.00	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		45-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Glencoe	10	0-10	   27-35	  1.35 <b>-</b> 1.45	1.00-14.00	0.18-0.22	   3.0-5.9	5.0-10	.28	.28	5	   6	48
	l l	10-35	25-35	1.35-1.45	1.00-14.00	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		35-48	25-35	1.35-1.50	1.00-14.00	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		48-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Nicollet	5	0-10	27-35	  1.15-1.25	4.23-14.11	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	7	38
		10-31	25-35	1.25-1.35	4.23-14.11	0.15-0.19	3.0-5.9	1.0-2.0	.32	.32			
		31-42	•		4.00-14.00	0.15-0.19	•	0.5-1.0	.32	.32			
		42-80	20-30 	1.35-1.55 	4.00-14.00	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37		 	 
L113B:	i					İ		i	i	İ	İ	i	
Reedslake	75	0-12			4.23-14.11	0.20-0.22		3.0-5.0	.24	.24	5	6	48
		12-26			4.23-14.11	0.15-0.19		0.5-2.0	.32	.32	ļ	!	ļ
		26-48			4.00-14.00	0.15-0.19		0.1-0.5	.32	.37	!	ļ	ļ
		48-80	20-30 	1.35-1.55 	4.00-14.00 	0.15-0.19	1.0-4.2 	0.1-0.5	32	.37 	 	 	 
Le Sueur	10	0-17	28-30	1.50-1.70	4.23-14.11	0.17-0.20	3.0-5.9	3.0-7.0	.24	.24	5	6	48
		17-37	•		4.23-14.11	0.15-0.19	3.0-5.9	0.5-2.0	.32	.32			
		37-46			4.00-14.00	0.15-0.19		0.1-0.5	.32	.37			
		46-80	20-30 	1.35-1.55 	4.00-14.00 	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37 	 	 	 
Reedslake, eroded	10	0-12	20-26	1.30-1.40	4.23-14.11	0.20-0.22	0.0-2.9	1.0-3.0	.24	.24	5	6	48
		12-26	•		4.23-14.11	0.15-0.19	•	0.5-2.0	.32	.32			
		26-48			4.00-14.00	0.15-0.19	•	0.1-0.5	.32	.37			
		48-80	20-30 	1.35-1.55 	4.00-14.00 	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37 	 	 	 
Cordova	5	0-18	27-30	1.25-1.45	1.41-4.23	0.18-0.22	3.0-5.9	4.0-7.0	.28	.28	5	6	48
		18-38			1.41-4.23	0.15-0.19		1.0-4.0	.28	.28			
		38-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L114A:			 				 	<u> </u>	İ	İ			
Hanlon, rarely													
flooded	85	0-24				0.16-0.18		2.0-3.0	.20	.20	5	3	86
		24-52				0.16-0.18		1.0-2.0	.20	.20	!	ļ	ļ
		52-57			14.11-42.34	0.11-0.13		1.0-2.0	.20	.20			
		57-80	1 2-18	11.55-1.70	14.11-42.34	0.12-0.19	1 0.0-2.9	0.0-1.0	.24	.24	1	1	I

Map symbol and	Pct. of	Depth	   Clay	   Moist	   Saturated	  Available		   Organic	Erosi	on fact	ors	erodi-	
component name	map unit			bulk	hydraulic	water	extensi-	matter				bility	bilit
				density	conductivity	capacity	bility		Kw	Kf	T	group	index
	ļ	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
L114A:			 	<u> </u> 	 		<u> </u> 	 		 		 	 
Coland, occasionally	İ		ĺ	ĺ	ĺ	İ	ĺ	ĺ	İ	İ		ĺ	İ
flooded	10	0-25	27-35	1.40-1.50	4.00-14.00	0.20-0.22	3.0-5.9	5.0-7.0	.24	.24	5	7	38
	İ	25-54	22-28	1.40-1.50	4.00-14.00	0.20-0.22	3.0-5.9	2.0-5.0	.24	.24		İ	İ
	İ	54-60	12-26	1.50-1.65	4.00-42.00	0.13-0.17	0.0-2.9	0.2-0.8	.28	.28			
Minneopa, rarely			 	<u> </u> 	 		<u> </u> 	 		 		 	 
flooded	5	0-15	5-15	1.30-1.50	14.00-42.00	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	4	3	86
	İ	15-20	5-15	1.40-1.60	14.00-42.00	0.07-0.11	0.0-2.9	0.5-1.0	.20	.20		İ	İ
	į	20-60	1-10	1.50-1.70	42.00-141.00	0.04-0.09	0.0-2.9	0.1-0.5	.15	.15		į	į
L115A:			 	<u> </u> 	 		<u> </u> 	 	 	 		 	 
Brownton	55	0-22	35-40	1.20-1.30	0.00-1.00	0.18-0.22	6.0-8.9	4.0-8.0	.28	.28	5	4	86
	İ	22-38	35-60	1.20-1.30	0.00-1.00	0.13-0.16	6.0-8.9	0.2-1.0	.28	.28		İ	İ
	į	38-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		į	į
Lura	   35	0-10	   45-60	  1.25-1.35	   0.00-1.00	0.14-0.17	   6.0-8.9	   4.0-12	.28	   .28	5	   4	   86
	İ	10-58	45-60	1.25-1.35	0.00-1.00	0.14-0.17	6.0-8.9	1.0-4.0	.32	.32		İ	İ
	ļ	58-72	28-60	1.30-1.45	0.00-4.00	0.11-0.19	6.0-8.9	0.0-1.0	.32	.32			İ
Marna	   10	0-20	   35-50	  1.20-1.30	   0.42-1.41	0.18-0.22	   6.0-8.9	   4.0-8.0	.28	   .28	5	4	   86
	İ	20-32	35-60	1.25-1.40	0.42-1.41	0.13-0.16	6.0-8.9	0.5-1.0	.32	.32		İ	İ
	İ	32-41	28-35	1.35-1.50	1.41-4.23	0.15-0.19	3.0-5.9	0.2-0.8	.28	.28		İ	İ
	İ	41-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L116A:			 	 	 	 	 	 	 	 		 	 
Le Sueur	45	0-17	28-30	1.50-1.70	4.23-14.11	0.17-0.20	3.0-5.9	3.0-7.0	.24	.24	5	6	48
	İ	17-37	24-35	1.30-1.45	4.23-14.11	0.15-0.19	3.0-5.9	0.5-2.0	.32	.32		İ	İ
		37-46	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		46-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Lerdal	40	0-8	   27-32	  1.15-1.25	   1.00-14.00	0.18-0.22	   3.0-5.9	   2.0-4.0	.37	   .37	5	   7	   38
		8-12	27-32	1.15-1.25	1.00-14.00	0.18-0.22	3.0-5.9	0.2-1.5	.37	.37			
	İ	12-41	35-55	1.25-1.35	0.00-1.00	0.13-0.19	6.0-8.9	0.2-0.8	.32	.32		İ	İ
	İ	41-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Mazaska	   10	0-15	   27-40	  1.15-1.30	   1.41-4.23	0.17-0.22	   6.0-8.9	   4.0-7.0	.28	   .28	5	   7	   38
i	ı i	15-42	35-50	1.25-1.40	0.42-1.41	0.10-0.16	6.0-8.9	0.5-2.0	.28	.28			
	į	42-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		İ	İ
Kilkenny	   5	0-11	   27-30	  1.15-1.25	   1.41-4.23	0.17-0.19	   3.0-5.9	2.0-4.0	.28	   .28	5	   6	   48
-	i	11-35			1.41-4.23	0.15-0.19		0.2-1.0	.28	.28		i	i
i	i	35-80			4.23-14.11	0.15-0.19		0.1-0.5	.32	.37		i	i
i	i		i	i	i	i	İ	i	i	i		i	i

Table 15.--Physical Properties of the Soils--Continued

Table 15.--Physical Properties of the Soils--Continued

	1 1					12			1				Wind
Map symbol and	Pct. of	Depth	Clay	Moist	Saturated	Available		Organic				erodi-	•
component name	map unit		l I	bulk	hydraulic conductivity	water  capacity	extensi- bility	matter	   Kw	   Kf		bility  group	
		In	l   Pct	density   g/cc	um/sec	In/in	Pct	l Pct	KW	I	<del>_</del> _	l Taronb	I
	i i		100	9/00	unity sec	111/111	100	100	i	i	ŀ	i	ŀ
L117C2:	i i		i	İ	İ	i	i İ	i	i	i	i	İ	i
Omsrud, eroded	65	0-9	20-26	1.35-1.45	4.23-14.11	0.20-0.22	0.0-2.9	2.0-4.0	.24	.24	5	6	48
	į į	9-19	22-30	1.35-1.50	4.23-14.11	0.17-0.19	0.0-2.9	0.5-2.0	.32	.32	İ	İ	İ
	į į	19-36	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	İ	İ	İ
	į į	36-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	ĺ	İ	İ
	!!!		!	!	!	İ		!		!	ļ		!
Omsrud	15	0-12			4.23-14.11	0.20-0.22		3.0-5.0	.24	.24	5	6	48
	!!!	12-16			4.23-14.11	0.17-0.19		0.5-2.0	.32	.32			!
	!!!	16-32			4.00-14.00	0.15-0.19		0.1-0.5	.32	.37			!
		32-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	ļ		ļ
Terril	   10	0-27	   10_26	  1 25_1 40	   4.23-14.11	0.20-0.22	   n n_2 a	   3.0-5.0	1 .24	   .24	l I5	   6	l I 48
161111	1 10 1	27-40		•	4.23-14.11	0.17-0.19		2.0-4.0	1 .28	.28	7	1 0	1 40
	; ;	40-63		•	4.23-14.11	0.17-0.19		0.0-1.0	32	32		i i	
	; ;	63-80		•	4.00-14.00	0.15-0.19	•	0.1-0.5	1 .32	37		i i	
	; ;	03-00	20-30 	1.35-1.35 	4.00-14.00	0.13-0.19	1.0-4.2 	0.1-0.5	.32	•37 	l	i	
Delft	,   5	0-37	25-35	  1.40-1.65	1.00-4.00	0.18-0.20	3.0-5.9	4.0-8.0	.24	.24	5	6	48
	į į	37-50	20-32	1.30-1.40	4.00-14.00	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32	İ	İ	İ
	į į	50-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	İ	İ	İ
	! [										ļ _		
Storden, eroded	5	0-7			4.23-14.11	0.20-0.22		1.0-2.0	.28	.28	5	4L	86
	!!!	7-55			4.00-14.00	0.15-0.19		0.1-0.5	.32	.37	!	ļ	ļ
	!!!	55-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	!		
L118A:	; ;		l I	 	 	1	 	 	1	 			
Rushriver, frequently	i i		! !	i	i	i	! 	i	i	¦	ŀ	i	i
flooded		0-41	ı İ 5–18	ı   1 . 40-1 . 60	114.11-42.34	10.11-0.17	I I 0.0-2.9	1.0-4.0	.24	.24	l I 5	l l 3	l l 86
1100000	1 05 1	41-80		•	14.11-141.14			0.5-2.0	1.17	1.17			00
	i i		į	i	İ	i		İ	i	i	i	i	i
Houghton, frequently	į į		ĺ	ĺ	ĺ	İ	ĺ	ĺ	İ	ĺ	ĺ	ĺ	İ
flooded	5	0-60	0-0	0.20-0.35	1.41-42.34	0.35-0.45		70-99			2	2	134
	!!!					ļ			ļ	ļ	ļ	ļ	ļ
Klossner, frequently							ļ		!	!			
flooded	5	0-22		•	1.00-42.00	0.35-0.48		25-60			2	2	134
	!!!	22-45			4.00-14.00	0.22-0.26		10-20	.37	.37	!		!
		45-60	15-32 	1.30-1.40 	1.00-14.00	0.18-0.22	3.0-5.9 	5.0-10	.28	.28			
Medo, frequently	, , , ,		İ	! 	i I		! 	İ	i	! 	ŀ	i	1
flooded		0-25		0.25-0.45	1.00-42.00	0.35-0.45	 	20-50		 	2	2	1 134
	į i	25-31		•	4.00-42.00	0.13-0.20		5.0-10	.24	.24	i	i	i
	į i	31-45			4.00-42.00	0.13-0.20		0.8-3.0	.24	.24	i	i	i
	į i	45-80				0.03-0.10		0.5-2.0	1.10	1.10	i	i	i

Map symbol and	Pct. of	Depth	   Clay	   Moist	   Saturated	  Available	   Linear	   Organic	Erosi	on fac	tors	Wind  erodi-	Wind  erodi
component name	map unit			bulk	hydraulic	water	extensi-	matter				bility	bilit
	J			density	conductivity	capacity	bility		Kw	Kf	Т	group	index
		In	Pct	g/cc	um/sec	In/in	Pct	Pct					
.119B:	 		 	 	 		 	 		 	 		 
Angus	80	0-8	20-27	1.30-1.40	4.23-14.11	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	5	6	48
		8-35	24-35	1.45-1.55	4.23-14.11	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
		35-40	24-35	1.55-1.75	4.23-14.11	0.14-0.19	0.0-2.9	0.0-0.5	.37	.37			
		40-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Angus, eroded	10	0-8	   20-27	  1.30-1.40	   4.23-14.11	0.20-0.22	0.0-2.9	   1.0-3.0	.28	.28	   5	   6	   48
		8-40	24-35	1.45-1.55	4.23-14.11	0.15-0.19	3.0-5.9	0.5-1.0	.28	.28			
	İ	40-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	ļ	İ	
Cordova	5	0-18	   27-30	  1.25-1.45	   1.41-4.23	0.18-0.22	3.0-5.9	   4.0-7.0	.28	   .28	   5	   6	   48
	İ	18-38	28-35	1.35-1.50	1.41-4.23	0.15-0.19	3.0-5.9	1.0-4.0	.28	.28	ĺ	İ	İ
		38-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Le Sueur	   5	0-17	   28-30	  1.50-1.70	   4.23-14.11	0.17-0.20	   3.0-5.9	   3.0-7.0	.24	1 .24	   5	   6	   48
		17-37	24-35	1.30-1.45	4.23-14.11	0.15-0.19	3.0-5.9	0.5-2.0	.32	.32			
į		37-46	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		46-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L120A:			 	 	! 		 	 					 
Good Thunder	80	0-15	30-40	1.20-1.40	1.41-4.23	0.18-0.22	3.0-5.9	4.0-7.0	.28	.28	5	4	86
		15-32	36-55	1.20-1.35	0.42-4.23	0.13-0.16	6.0-8.9	1.0-3.0	.32	.32			
		32-80	18-32 	1.25 <b>-</b> 1.35	4.23-14.11	0.16-0.20	0.0-2.9	0.0-1.0	.37	.37			
Ocheyedan	10	0-10	   24-27	  1.40-1.45	   4.00-14.00	0.20-0.22	0.0-2.9	   3.0-6.0	.24	.24	   5	6	48
		10-30			4.00-14.00	0.16-0.18	0.0-2.9	0.5-1.0	.32	.32			
		30-60	12-24 	1.45-1.70 	4.00-14.00	0.19-0.21	0.0-2.9	0.1-0.5	.43	.43			
Minnetonka	10	0-13	   27-35	  1.20-1.40	1.41-4.23	0.18-0.22	3.0-5.9	4.0-8.0	.28	.28	   5	7	38
		13-35	35-60	1.20-1.35	0.42-1.41	0.13-0.19	6.0-8.9	0.2-1.0	.28	.28			
		35-60	25-40 	1.25-1.55 	1.41-14.11	0.16-0.21	3.0-5.9	0.0-0.2	.28	.28			
L121B:			 	! 	İ								
Clarion	80	0-13	27-33	1.30-1.55	4.00-14.00	0.20-0.22	3.0-5.0	3.0-6.0	.24	.24	5	6	48
		13-37	27-33	1.30-1.55	4.00-14.00	0.17-0.19	3.0-5.0	0.5-1.0	.37	.37			
	 	37-80	20-30 	1.35-1.55 	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37 	 	 	 
Guckeen	15	0-15			1.41-4.23	0.16-0.19		4.0-6.0	.28	.28	   5	4	86
	l l	15-24			0.42-4.23	0.13-0.16		0.5-1.5	.28	.28			
	l l	24-30			0.42-4.23	0.15-0.17		0.2-0.8	.37	.37			
İ		30-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	I	1	1

Table 15.--Physical Properties of the Soils--Continued

Table 15.--Physical Properties of the Soils--Continued

Map symbol and	   Pct. of	   Depth	   Clay	   Moist	   Saturated	  Available	   Linear	   Organic	Erosi	on fac	tors	Wind  erodi-	
component name	map unit		2 	bulk	hydraulic	water	extensi-	matter	i	I		bility	
		<u></u>	<u>i</u>		conductivity	capacity	bility		Kw	K£	т	group	
		In	Pct	g/cc	um/sec	In/in	Pct	Pct	İ	!	<u> </u>	!	<u> </u>
L121B:	 		 	 	 		 	 		 	 	 	 
Marna	5	0-20	35-50	1.20-1.30	0.42-1.41	0.18-0.22	6.0-8.9	4.0-8.0	.28	.28	5	4	86
		20-32	35-60	1.25-1.40	0.42-1.41	0.13-0.16	6.0-8.9	0.5-1.0	.32	.32			
		32-41	28-35	1.35-1.50	1.41-4.23	0.15-0.19	3.0-5.9	0.2-0.8	.28	.28			
		41-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		ļ	
L122B:	 	 	 	 	]	 	 	 		 	 	l I	 
Reedslake	55	0-12	20-26	1.30-1.40	4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		12-26	22-32	1.40-1.50	4.23-14.11	0.15-0.19	3.0-5.9	0.5-2.0	.32	.32			
		26-48	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		48-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		ļ	
Estherville	   25	   0-13	   5-15	  1.25-1.35	1 14.00-42.00	0.13-0.18	0.0-2.9	2.0-4.0	.20	1 .20	   3	   3	l   86
	j i	13-18	10-18	1.35-1.60	14.00-42.00	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20	İ	İ	İ
	j i	18-23	0-8	1.50-1.65	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10	ĺ	İ	ĺ
		23-60	0-8	1.50-1.65	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10		ļ	
Le Sueur	   10	   0-17	   28-30	  1.50-1.70	   4.23-14.11	0.17-0.20	   3.0-5.9	3.0-7.0	.24	   .24	   5	   6	   48
	j i	17-37	24-35	1.30-1.45	4.23-14.11	0.15-0.19	3.0-5.9	0.5-2.0	.32	.32	i	i	i
	j i	37-46	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	İ	İ	İ
	į	46-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
Cordova	   5	   0-18	   27-30	  1.25-1.45	   1.41-4.23	0.18-0.22	   3.0-5.9	4.0-7.0	1 .28	   .28	   5	   6	   48
	j i	18-38		•	1.41-4.23	0.15-0.19	•	1.0-4.0	.28	.28	i	i	İ
	į į	38-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
Lowlein	   5	   0-14	   10-18	  1.30-1.50	  14.00-42.00	0.13-0.15	0.0-2.9	3.0-5.0	1.20	   .20	   5	   3	   86
	i	14-24			14.00-42.00	0.12-0.14		1.0-2.0	.24	.24	i	i	
	i	24-31			42.00-141.00	0.06-0.11		0.0-1.0	.15	.15	i	i	i
	į į	31-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
L123A:	 		 	 	 		 	 		 	 		 
Belleville	l 85	   0-11	I   12-18	I   1 . 30-1 . 50	114.11-42.34	0.13-0.18	0.0-2.9	3.0-6.0	.20	.20	l   3	l I 3	ı I 86
Belleville	1 05	11-27			42.34-141.14			0.1-0.5	1.17	1.17			00 
	į i	27-48			1.41-4.23	0.12-0.20		0.1-0.5	.32	.32	i	i	i
	į	48-80			4.00-14.00	0.15-0.19		0.1-0.5	.32	.37	į	į	į
Granby	   15	   0-12	   2=14	  1.20=1.60	  42.34-141.14	0.10-0.12	0.0-2.9	   4.0-10		   .17	   5	   2	   134
<u> </u>	1 1	12-24			42.34-141.14				1 .17	1 .17	]	, <del>*</del>	134 
		24-60			42.34-141.14				1 .17	1 .17	i	i	İ
	<u> </u>		110					<u> </u>				i	<u> </u>

Table 15.--Physical Properties of the Soils--Continued

Map symbol and	Pct. of	Depth	   Clay	   Moist	   Saturated	  Available		   Organic	Erosi	on fact	tors	erodi-	Wind  erodi
component name	map unit		 	bulk density	hydraulic conductivity	water  capacity	extensi- bility	matter	   Kw	   K£	 ! т	bility  group	
		In	Pct	g/cc	um/sec	In/in	Pct	Pct					
L124A:	ļ		 	 	 	 	 	 		 	 	 	 
Glencoe mucky clay	I												
loam	85	0-10	20-30	1.20-1.25	4.00-14.00	0.22-0.25	3.0-5.9	10-18	.32	.32	5	6	48
I	I	10-29			1.00-14.00	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
I	I	29-42			1.00-14.00	0.15-0.19		0.5-2.0	.28	.28			
		42-60	20-30 	1.35-1.55 	4.00-14.00	0.15-0.19	1.0-4.2 	0.1-0.5	.32	.37 	 	 	
Canisteo	10	0-18	27-35	  1.25-1.35	4.00-14.00	0.18-0.22	3.0-5.9	4.0-7.0	.24	.24	   5	   4L	86
I	I	18-39	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32			
ļ	ļ	39-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Glencoe clay loam	5	0-10	   27-35	  1.35-1.45	   1.00-14.00	0.18-0.22	   3.0-5.9	   5.0-10	.28	.28	   5	   6	48
I	I	10-35	25-35	1.35-1.45	1.00-14.00	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
I	I	35-48	25-35	1.35-1.50	1.00-14.00	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		48-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		ļ	
L125A:	i		 	 	 	 	 	 		 	 	 	
Hanlon, rarely								ļ		!			
flooded	60	0-24			14.11-42.34	0.16-0.18		2.0-3.0	.20	.20	5	3	86
		24-52	•	•	14.11-42.34	0.16-0.18		1.0-2.0	.20	.20	!	!	ļ
!		52-57			14.11-42.34	0.11-0.13		1.0-2.0	.20	.20	ļ	ļ.	!
 		57-80	2-18 	1.55-1.70 	14.11-42.34 	0.12-0.19	0.0-2.9 	0.0-1.0 	1 .24	.24 	 	l I	 
Coland, occasionally	i		İ	İ	İ	İ		İ	i	İ	İ	i	į
flooded	25	0-25	27-35	1.40-1.50	4.00-14.00	0.20-0.22	3.0-5.9	5.0-7.0	.24	.24	5	7	38
I	I	25-54			4.00-14.00	0.20-0.22	3.0-5.9	2.0-5.0	.24	.24			
ļ		54-60	12-26	1.50-1.65	4.00-42.00	0.13-0.17	0.0-2.9	0.2-0.8	.28	.28			
Minneopa, rarely	i		 	 	! 	 	 	! 		! 	 	! 	
flooded	15	0-15	5-15	1.30-1.50	14.00-42.00	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	4	3	86
I	I	15-20	5-15	1.40-1.60	14.00-42.00	0.07-0.11	0.0-2.9	0.5-1.0	.20	.20			
ļ	ļ	20-60	1-10	1.50-1.70	42.00-141.00	0.04-0.09	0.0-2.9	0.1-0.5	.15	.15			
L126A:	i		 	 	! 	 	 	! 		 	 	 	
Coland, occasionally								l		I			
flooded	80	0-25	27-35	1.40-1.50	4.00-14.00	0.20-0.22	3.0-5.9	5.0-7.0	.24	.24	5	7	38
İ	Ì	25-54	22-28	1.40-1.50	4.00-14.00	0.20-0.22	3.0-5.9	2.0-5.0	.24	.24			
	ļ	54-60	12-26	1.50-1.65	4.00-42.00	0.13-0.17	0.0-2.9	0.2-0.8	.28	.28			
Minneopa,	ļ		 	! 	 	 	! 	! 		 	 	 	
occasionally flooded	10	0-15	5-15	1.30-1.50	14.00-42.00	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	4	3	86
i	į	15-20	5-15	1.40-1.60	14.00-42.00	0.07-0.11	0.0-2.9	0.5-1.0	.20	.20	I	I	
ļ													

Table 15.--Physical Properties of the Soils--Continued

Map symbol and   component name	Pct. of map unit	Depth	   Clay 	   Moist   bulk	   Saturated   hydraulic	  Available   water	   Linear  extensi-	   Organic   matter	Erosi	on fac	cors 	Wind  erodi-  bility	
Component name	map unit		l I	density	conductivity	capacity	bility	Maccer	Kw	   Kf	   m	group	
		In	Pct	g/cc	um/sec	In/in	Pct	Pct	KW		-	 	
L126A:			 	 	 		 	 		 	 	 	 
Havelock,	į		İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
occasionally flooded	5	0-23	27-35	1.40-1.50	4.23-14.11	0.20-0.22	6.0-8.9	5.0-7.0	.24	.24	5	4L	86
I	I	23-35	27-35	1.40-1.50	4.23-14.11	0.20-0.22	6.0-8.9	1.0-2.0	.28	.28			
ļ	ļ	35-60	12-28	1.50-1.65	14.11-42.34	0.13-0.17	0.0-2.9	0.0-0.5	.28	.28			
Spillville,	i		 	! 	 		! 	! 			 	İ	 
occasionally flooded	5	0-51	18-26	1.45-1.55	4.00-14.00	0.19-0.21	3.0-5.9	4.0-6.0	.24	.24	5	6	48
		51-60	14-24	1.55-1.70	4.00-42.00	0.15-0.18	0.0-2.9	2.0-3.0	.28	.28		ļ	
L127A:			 	 	 	 	 	 		 	 	l I	 
Coland, frequently	i		İ	i	i	i	i	i	i	i	i	i	i
flooded	80	0-12	27-35	1.40-1.50	4.00-14.00	0.20-0.22	3.0-5.9	5.0-7.0	.24	.24	5	6	48
I	- 1	12-30	22-35	1.40-1.50	4.00-14.00	0.20-0.22	3.0-5.9	4.0-6.0	.24	.24			
I	I	30-55	14-28	1.40-1.50	4.00-14.00	0.20-0.22	3.0-5.9	2.0-5.0	.24	.24			
	ļ	55-80	12-26	1.50-1.65	4.00-42.00	0.13-0.17	0.0-2.9	0.5-3.0	.28	.28			
Minneopa,			 	 	] 	 	 	 	 	l I	 	I I	 
occasionally flooded	10	0-16	5-15	1.30-1.50	14.00-42.00	0.13-0.15	0.0-2.9	2.0-5.0	.20	.20	4	3	86
İ	j	16-29	5-10	1.40-1.60	14.00-42.00	0.07-0.11	0.0-2.9	0.5-1.0	.20	.20	ĺ	İ	İ
		29-60	1-10	1.50-1.70	42.00-141.00	0.04-0.09	0.0-2.9	0.1-0.5	.15	.15		ļ	
Havelock, frequently			 	 	 	 	 	 	 	 	 	l I	 
flooded	5	0-30	14-30	1.40-1.50	4.23-14.11	0.20-0.22	6.0-8.9	3.0-7.0	.24	.24	5	4L	86
İ	j	30-40	22-35	1.40-1.50	4.23-14.11	0.20-0.22	6.0-8.9	1.0-3.0	.28	.28	ĺ	İ	İ
		40-60	18-35	1.50-1.65	14.11-42.34	0.13-0.17	0.0-2.9	0.5-2.5	.28	.28		ļ	
Spillville,			 	 	 	 	 	 	 	 	 	l I	 
occasionally flooded	5	0-51	18-26	1.45-1.55	4.00-14.00	0.19-0.21	3.0-5.9	4.0-6.0	.24	.24	5	6	48
į	į	51-60	14-24	1.55-1.70	4.00-42.00	0.15-0.18	0.0-2.9	2.0-3.0	.28	.28	į	į	İ
L128A:			 	 	 		 	 		l I	 	 	 
Mazaska	60	0-15	27-40	1.15-1.30	1.41-4.23	0.17-0.22	6.0-8.9	4.0-7.0	.28	.28	5	7	38
I	- 1	15-42	35-50	1.25-1.40	0.42-1.41	0.10-0.16	6.0-8.9	0.5-2.0	.28	.28			
	ļ	42-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		I	
Rolfe	30	0-12	   22-27	  1.35-1.40	   4.23-14.11	0.22-0.24	   0.0-2.9	3.0-5.0	.37	.37	   5	   6	   48
İ	j	12-20	22-27	1.40-1.50	4.23-14.11	0.22-0.24	0.0-2.9	1.0-2.0	.28	.28	İ	İ	İ
İ	j	20-35	39-45	1.50-1.60	0.42-1.41	0.11-0.13	6.0-8.9	1.0-2.0	.28	.28	ĺ	İ	İ
İ	İ	35-51			1.41-14.11	0.14-0.16		0.0-1.0	.28	.28			
ļ		51-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
  Lerdal	10	0-8	   27-32	  1.15-1.25	1.00-14.00	0.18-0.22	1   3.0-5.9	2.0-4.0	.37	.37	   5	   7	   38
i	i	8-12	•	•	1.00-14.00	0.18-0.22	3.0-5.9	0.2-1.5	.37	.37	İ	İ	İ
i	į	12-41	35-55	1.25-1.35	0.00-1.00	0.13-0.19	6.0-8.9	0.2-0.8	.32	.32			

Man man 2 - 2 2		Der 12		Mad at	data===================================				Erosi	on fac	tors	•	Wind
Map symbol and component name	Pct. of     map unit	Depth	Clay 	Moist   bulk	Saturated hydraulic	Available   water	Linear  extensi-	Organic   matter				erodi-	
			i			capacity	bility	i	Kw	К£	т	group	
		In	Pct	g/cc	um/sec	In/in	Pct	Pct	İ	į	İ		İ
L129B:			 	İ	<u> </u>		 	 		 	 	 	 
Terril	90	0-27	   18-26	1.35-1.40	4.23-14.11	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	l I 48
i	i i	27-40	24-30	1.40-1.45	4.23-14.11	0.17-0.19	•	2.0-4.0	.28	.28	i	i	i
	i i	40-63	22-30	1.45-1.70	4.23-14.11	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32	i	İ	i
		63-80	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
Delft	   5	0-37	   25-35	  1.40-1.65	   1.00-4.00	0.18-0.20	   3.0-5.9	4.0-8.0	.24	   .24	   5	   6	   48
	i i	37-50	20-32	1.30-1.40	4.00-14.00	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32	i	İ	i
		50-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37	į	į	į
Hamel	   5	0-24	   20-27	  1.30-1.40	   4.23-14.11	0.20-0.24	   0.0-2.9	   5.0-7.0	1 .28	   .28	   5	   6	   48
		24-46			1.41-4.23	0.16-0.19	•	1.0-4.0	.28	.28	i	i	i
		46-80			4.23-14.11	0.15-0.19	•	0.1-0.5	.32	.37	į	į	į
L130A:			 	İ	<u> </u>		 	 		 	 	 	 
Okoboji mucky silty	i		i			i	İ	i	i	i	i	i	i
clay loam	75 I	0-13	28-35	1.20-1.25	4.23-14.11	0.22-0.25	3.0-5.9	10-18	.32	.32	5	6	48
_	i i	13-35	35-45	1.30-1.40	1.41-4.23	0.18-0.20	6.0-8.9	7.0-10	.32	.32	i	İ	i
		35-60	25-35	1.35-1.40	1.41-4.23	0.18-0.20	6.0-8.9	0.5-1.5	.32	.32	į	į	į
Okoboji silty clay	 		 				<u> </u> 	 		 	 		 
loam	15	0-26	35-42	1.30-1.40	1.00-4.00	0.21-0.23	6.0-8.9	5.0-10	.32	.32	5	4	86
İ	į į	26-42	35-50	1.30-1.40	1.00-4.00	0.18-0.20	6.0-8.9	0.5-2.0	.32	.32	ĺ	İ	İ
		42-60	25-35	1.35-1.40	1.00-4.00	0.18-0.20	6.0-8.9	0.2-0.8	.32	.32		ļ	
Brownton	   5	0-22	   35-40	  1.20-1.30	   0.00-1.00	0.18-0.22	   6.0-8.9	4.0-8.0	.28	   .28	   5	   4	   86
İ	į į	22-38	35-60	1.20-1.30	0.00-1.00	0.13-0.16	6.0-8.9	0.2-1.0	.28	.28	ĺ	İ	İ
		38-60	20-30	1.35-1.55	4.00-14.00	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37		ļ	
Spicer	   5	0-16	   29-35	  1.20-1.30	   4.00-14.00	0.18-0.24	   3.0-5.9	4.0-8.0	.28	   .28	   5	   4L	   86
İ	į į	16-40	18-35	1.25-1.35	4.00-14.00	0.16-0.22	3.0-5.9	0.8-2.0	.37	.37	ĺ	İ	İ
		40-60	18-35	1.25-1.35	4.00-14.00	0.16-0.22	0.0-2.9	0.1-0.8	.37	.37	İ	į	ĺ
M-W.	 		 				<u> </u> 	 		 	 		 
Water, miscellaneous	į		į			į	į	į	į	į	į	į	į
U3B.	 	 	 	 		 	 	 	 	 	 	 	 
Udorthents (cut and fill land)			 			i I		i !	į Į	į Į	 	   	İ !
w.			 	 		 	 	 		 	 	 	 
Water			!	ļ		ļ.	ļ	ļ.	!	!	ļ	!	!

Table 15.--Physical Properties of the Soils--Continued

Table 16.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and   component name	Pct. of map	Depth 	exchange	reaction	: :	
	unit	L	capacity		ate	
		In	meq/100 g	PH I	Pct	Pct
GP:		l I		 		
Pits, gravel	80	 	i		¦ ¦	
i i		İ	i	İ	i i	
Udipsamments	20	   	i I	   	i i I I	
L5A:			1	l		
Delft, overwash	50	0-12		5.6-7.8		
ļ.		12-37	ļ	5.6-7.8		
!		37-47		6.6-7.8		
		47-80 	10-20 	7.4-8.4	10-20	0-1
Delft	40	0-37		5.6-7.8	 	
İ		37-50	j	6.6-7.8	i i	
Į.		50-60	10-20	7.4-8.4	10-20	0-1
Glencoe	5	   0-10	   23-37	   6.1-7.8	   0-5	0
Grencoe	3	10-35	16-27	6.1-7.8	0-5     0-5	0
i i		35-48	14-25	6.6-7.8	0-5     0-5	0
i		48-60	10-20	7.4-8.4	1 10-20	0-1
i			i		i i	
Terril	5	0-27	20-25	6.1-7.3	0	0
I		27-40	20-25	6.1-7.3	0	0
I		40-63	15-25	6.1-7.3	0	0
!		63-80	10-20	7.4-8.4	10-20	0-1
L13A:		l İ	 	l İ	 	
Klossner, drained	80	   0-26	50-150	   5.6-7.4	l 0-5 l	
		26-36	35-65	6.1-7.4	: :	
i		36-48	20-40	6.1-7.4	0-5	
į		48-80	5.0-25	6.1-8.4	0-20	0-1
Mineral soil, drained	15	   0-13	   22-33	   6.1-7.8	   0-5	
mineral soil, drained	13	13-31	16-27	6.1-7.8	0-5     0-5	
i		31-45	14-25	6.6-7.8	0-5	
į		45-80	10-20	7.4-8.4	10-20	0-1
. !		ļ	!			
Houghton, drained	5	0-10	100-200	4.5-7.3		
 		10-80 	100-200	<b>4.5-7.3</b> 		
L14A:		! 	i	 	i i	
Houghton, drained	80	0-10	100-200	4.5-7.3	i i	
į		10-80	100-200	4.5-7.3	i i	
Vloggnor drained	10	0.26	   50.150			_
Klossner, drained	10	0-26   26-36	:	5.6-7.4   6.1-7.4		
¦		36-48	•	6.1-7.4		
		48-80	5.0-25	6.1-8.4		0-1
į		İ	İ	İ	i i	
Mineral soil, drained	10	0-13	•	6.1-7.8		
I		13-31	•	6.1-7.8		
I		31-45	•	6.6-7.8		
I		45-80	10-20	7.4-8.4	10-20	0-1

Table 16.--Chemical Properties of the Soils--Continued

Man much 1 and	 					<b>a</b>
Map symbol and	Pct.	Depth	Cation-	Soil	Calcium	Gypsum
component name	of map	 	exchange		: :	
	unit	L	capacity		ate	D-1
		In	meq/100 g	pH I	Pct	Pct
L15A:	l I	l I	I I	l I		
Klossner, ponded	l   30	I   0-26	50-150	   5.6-7.4	0-5	
RIOSSHEI, ponded	] 30 	26-33	35-65	6.1-7.4	0-5	
		33-40	20-40	6.1-7.4	0-5	
	i	40-80	5.0-25	6.1-8.4	0-20	0-1
i		i			i i	
Okoboji, ponded	30	0-10	41-50	6.1-7.8	0-15	
	İ	10-52	41-45	6.6-7.8	0-15	
İ	İ	52-60	36-41	6.6-7.8	0-30	
	l					
Glencoe, ponded	30	0-42	20-40	6.1-7.8	0-5	
		42-50	15-30	6.6-7.8	0-5	
		50-60	10-20	7.4-8.4	10-20	0-1
Houghton, ponded	10	0-80	100-200	4.5-7.3		
		!	ļ		!!	
L16A:					!!	
Muskego, ponded	30	0-9	140-180	5.6-7.3		
		9-36	150-190	5.6-7.3		
		36-60 	10-45	6.6-8.4	60-80	
Blue Earth, ponded	l   30	I   0-50	30-70	   7.4-8.4	   5-20	
Bide Earth, policed	30 	50-60	30-70	7.4-8.4	5-40	
	! 	30-00 	30-70 	/.4-0.4 	J-10   	
Houghton, ponded	30	l 0-80	100-200	   4.5-7.3	: 	
in agree in production					i i	
Klossner, ponded	10	0-26	50-150	5.6-7.4	0-5	
	İ	26-33	35-65	6.1-7.4	0-5	
İ	İ	33-40	20-40	6.1-7.4	0-5	
İ		40-80	5.0-25	6.1-8.4	0-20	0-1
				l		
L26B:						
Shorewood	90	0-17	30-45	5.6-7.3	0	0
		17-39	25-45	5.1-7.3	0	0
		39-60	10-20	7.4-8.4	10-20	0-1
	_					
Good Thunder	5	0-15	30-45	5.6-7.3	0	0
		15-32   32-80	25-45	5.1-7.3 7.4-8.4	0	0
	l I	32-00 	15-25	/•4-0•4 	10-20	U
Minnetonka	l l 5	   0-13	24-43	l   5.6-7.3		
minice conne	ı j	13-35	21-47	5.6-7.3	 	
		35-60	15-32	6.6-7.8	5-20	
i		i			i i	
L36A:	İ	İ	i	İ	i i	
Hamel, overwash	50	0-13	15-30	5.6-7.3	i i	
İ	İ	13-29	15-30	5.6-7.3	i i	
	l	29-50	15-30	5.6-7.3		
		50-80	10-20	7.4-8.4	10-20	0-1
Hamel	43	0-24	:	5.6-7.3		
		24-46	:	5.6-7.3		
	!	46-80	10-20	7.4-8.4	10-20	0-1
manus 43	   _				<u> </u>	
Terril	5 I	0-27	:	6.1-7.3	: :	
	 	27-40	!	6.1-7.3		
	 	40-63 63-80	!	6.1-7.3   7.4-8.4	   10-20	0-1
	 	03-00 	10-20	/•==0•# 	±0~20	0-1
· ·	ı	ı	I	ı		

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth   	Cation-  exchange  capacity	:	Calcium  carbon-   ate	
	<u> </u>	l In	meq/100 g		Pct	Pct
		l +111	Imeq/100 g	l bu	l FCC	FCC
L36A:		l İ	İ	i İ	; ;	
Glencoe	2	0-13	22-33	6.1-7.8	0-5	
	_	13-31	16-27	6.1-7.8	0-5	
		31-45	14-25	6.6-7.8	0-5	
		45-80	10-20	7.4-8.4	10-20	0-1
		İ	İ	İ	i i	
L40B:		İ	İ	İ	į i	
Angus	45	0-8	10-24	5.6-7.3	j i	
		8-35	10-23	5.1-7.3	i i	
		35-40	8.0-18	6.1-7.8	5-20	
		40-80	10-20	7.4-8.4	10-20	0-1
		ĺ	Ì	ĺ	į i	
Kilkenny	40	0-11	20-30	5.6-7.3	i i	
		11-35	25-35	5.1-7.3		
		35-80	10-20	7.4-8.4	10-20	0-1
		ĺ	Ì	ĺ	į į	
Lerdal	10	0-8	18-24	5.6-6.5	0	0
		8-12	18-24	5.6-6.5	0	0
		12-41	19-30	4.5-6.0	0	0
		41-80	10-20	7.4-8.4	15-25	0-1
				l		
Mazaska	5	0-15	22-34	6.1-7.3		
		15-42	19-29	4.5-6.5		
		42-80	10-20	7.4-8.4	15-25	0-1
L41C2:				l		
Lester, eroded	45	0-7	10-24	5.6-7.3		
		7-38	10-23	5.1-7.3		
		38-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Kilkenny, eroded	40	0-9	20-30	5.6-7.3		
		9-53	25-35	5.1-7.3		
		53-80	10-20	7.4-8.4	10-20	0-1
Terril	10	0-27	20-25	6.1-7.3		
		27-40	20-25	6.1-7.3		
		40-63	15-25	6.1-7.3		
		63-80	10-20	7.4-8.4	10-20	0-1
			!	!		
Derrynane	5	0-19	25-40	6.1-7.3	! !	
		19-39	25-45	6.1-7.3		
		39-65	20-30	6.1-7.3		
		65-80	10-20	7.4-8.4	10-20	0-1
				!		
L41D2:						
Lester, eroded	45	0-7	!	5.6-7.3	:	
		7-38		5.1-7.3		
		38-60	1	7.4-8.4		
		60-80	10-20	7.4-8.4	10-20	0-1
7/11-amount 3 - 3	25	l 0 0	1 20 22		]	
Kilkenny, eroded	35	0-9		5.6-7.3		
		9-53	!	5.1-7.3		0.1
		53-80	10-20	7.4-8.4	10-20	0-1
Terril	1.0	0.05	1 20 25		]	
16tt11	10	0-27	•	6.1-7.3		
		27-40	•	6.1-7.3		
		40-63		6.1-7.3		
	1	63-80	10-20	/ - 4-5-4	10-20	0-1

Table 16.--Chemical Properties of the Soils--Continued

					1 1	
Map symbol and	Pct.	   Depth	   Cation-	   Soil	  Calcium	Gvpsum
component name	of map		exchange	!	: :	
	unit	İ	capacity	:	ate	
		In	meq/100 g	pН	Pct	Pct
		!		<u> </u>		
L41D2:	_					
Derrynane	5	0-19   19-39	25-40 25-45	6.1-7.3	 	 
		39-65	20-30	6.1-7.3		
		65-80	10-20	7.4-8.4	10-20	0-1
		į	į	İ	į į	
Ridgeton	5	0-23	20-25	6.1-7.3	0	0
		23-38	20-25	6.1-7.3	0	0
		38-50	15-25	6.1-7.3	0	0
		50-80 	10-20	7.4-8.4	10-20	0-1
L41E:		l İ	İ	 		
Lester	45	0-5	10-24	5.6-7.3	i i	
		5-34	10-23	5.1-7.3	j j	
		34-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
W/31	40				 	 
Kilkenny	<del>4</del> 0 	0-7   7-31	20-30	5.6-7.3 5.1-7.3	 	
		31-80	10-20	7.4-8.4	10-20	0-1
Terril	5	0-24	20-25	6.1-7.3	j j	
		24-37	20-25	6.1-7.3		
		37-57	15-25	6.1-7.3		
	İ	57-80	10-20	7.4-8.4	10-20	0-1
Derrynane	l I 5	   0-20	25-40	   6.1-7.3	 	 
2011/114110		20-40	25-45	6.1-7.3	i i	
İ		40-54	20-30	6.1-7.3	i i	
		54-80	10-20	7.4-8.4	10-20	0-1
	_					
Ridgeton	5	0-32 32-40	20-25 15-25	6.1-7.3	0     0	0   0
		40-80	10-20	7.4-8.4	1 10-20	0-1
					i i	
L48A:		ĺ	İ	ĺ	į į	
Derrynane, overwash	50	0-16	25-40	6.1-7.3	0	0
		16-48	25-45	6.1-7.3	0	0
		48-67   67-80	20-30	6.1-7.3   7.4-8.4	0     10-20	0 0-1
		07-00 	10-20	/.4-0.4 	10-20   	0-1
Derrynane	40	0-19	25-40	6.1-7.3	i i	
		19-39	25-45	6.1-7.3	j j	
		39-65	20-30	6.1-7.3		
		65-80	10-20	7.4-8.4	10-20	0-1
Clenges	5	   0-10	1 22 27	   6170		l I 0
Glencoe	) 	10-35	•	6.1-7.8   6.1-7.8		0
		35-48	:	6.6-7.8		0
		48-60	:	7.4-8.4	: :	0-1
			[			
Terril	5	0-27	:	6.1-7.3	: :	0
	İ	27-40	:	6.1-7.3	: :	0
		40-63   63-80	:	6.1-7.3   7.4-8.4		0 0-1
			20			• •
L49A:		İ	İ	İ	į į	
Klossner, surface		ļ.		ļ		
drained	65	0-26	:	5.6-7.4	: :	
	 	26-33	:	6.1-7.4		
	[ [	33-40 40-80	:	6.1-7.4 6.1-8.4		0-1
	! 	10=00 	3.0-23		0-20	
	1	1	1	1		

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map	Depth	Cation-		Calcium	Gypsum
	unit	! 	capacity	•	ate	
		In	meq/100 g		Pct	Pct
İ		j	į	İ	į į	
L49A:		ļ	İ			
Klossner, drained	20	0-26	50-150	5.6-7.4	0-5	
		26-36   36-48	35-65 20-40	6.1-7.4   6.1-7.4	0-5     0-5	
		48-80	5.0-25	6.1-7.4	0-3	0-1
i		10 00	3.0 23		0 20	0 1
Mineral soil, drained	15	0-13	22-33	6.1-7.8	0-5	
j		13-31	16-27	6.1-7.8	0-5	
		31-45	14-25	6.6-7.8	0-5	
		45-80	10-20	7.4-8.4	10-20	0-1
T = 0.3 -	İ	 	1	l I		
L50A: Houghton, surface		l I	I I	l I		
drained	l l 40	l l 0-80	1 100-200	   4.5-7.3	 	
dramed	40	l 0-00	100-200	1.5-7.5		
Muskego, surface		İ	i	İ	i i	
drained	40	0-9	140-180	5.6-7.3	j j	
		9-36	150-190	5.6-7.3		
		36-60	10-45	6.6-8.4	60-80	
Klossner, drained	10	0-26	50-150	5.6-7.4	0-5	
		26-36   36-48	35-65 20-40	6.1-7.4   6.1-7.4	! ! !	
		36-46   48-80	5.0-25	6.1-7.4	0-3	0-1
		40-00 	3.0-25	0.1-0.1	0-20	0-1
Mineral soil, drained	10	0-13	22-33	6.1-7.8	0-5	
İ		13-31	16-27	6.1-7.8	0-5	
		31-45	14-25	6.6-7.8	0-5	
		45-80	10-20	7.4-8.4	10-20	0-1
L51C2:		l i	I I	l I		
Gladek, eroded	l l 80	   0-10	15-24	   6.1-7.3	I 0 I	0
Gradek, eroded	00	10-39	15-22	6.1-7.3	1 0 1	0
		39-80	7.0-24	7.4-8.4	10-30	0
İ		j	į	İ	j i	
Barrington	10	0-15	18-26	5.6-7.3	0	0
		15-33	16-25	5.6-7.8	0-10	0
		33-60	4.0-17	6.1-8.4	0-30	0
Tankan amadad	_		   10-24			0
Lester, eroded	5	0-7   7-38	10-24	5.6-7.3   5.1-7.3	0     0	0
		38-60	10-20	7.4-8.4	1 15-25	0-1
i		60-80	10-20	7.4-8.4	10-20	0-1
İ		İ	i	İ	i i	
Madelia	5	0-19	27-40	6.1-7.3	j 0 j	0
		19-37	17-32	6.6-7.8	0	0
		37-60	15-28	7.4-8.4	5-20	0
			ļ			
L56A:		 	l I	l I		
Muskego, frequently flooded	l l 45	l   0-9	   140_180	   5.6-7.3		
	15	0-3   9-36	:			
		36-60	!	6.6-8.4		
	j	İ	į	İ	į i	
Klossner, frequently					l İ	
flooded	45	0-26	!	5.6-7.4	: :	
		26-33	:	6.1-7.4	: :	
		33-40	!	6.1-7.4		
	1	40-80	5.0-25	6.1-8.4	0-20	0-1

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and component name	   Pct.   of map   unit	   Depth   	Cation-  exchange  capacity	   Soil  reaction 	  Calcium   carbon-   ate	
	I	In	meq/100 g	PH	Pct	Pct
L56A:	 	 	 	 		
Suckercreek,	! 	 	 	! 		
frequently flooded	10	0-22	10-20	7.4-8.4	5-20	
		22-80	1.0-10	7.4-8.4	5-25	
L57A:	 	 	 	! 		
Medo, drained	80	0-27	40-100	6.1-7.8	0-5	
		27-35	20-55	6.1-7.8	0-5	
	 	35-39   39-80	20-55	6.1-7.8   6.1-8.4	0-5   0-15	
	İ					
Mineral soil, drained	15	0-23	10-40	5.6-7.3		
		23-31	3.0-10	5.6-7.3	:	
	 	31-60 	1.0-5.0 	6.1-7.8 	0-5 	
Houghton, drained	5	0-10	100-200	4.5-7.3	j i	
		10-80	100-200	4.5-7.3		
L63A:	 	l I	 	 	 	
Klossner	85	0-25	50-150	5.6-7.8	0-5	0
		25-40	20-40	6.1-7.8	0-5	0
	 	40-80	20-40	6.6-7.8	0-5	0
Lura	   10	   0-10	   35-70	   6.1-7.8	   0-5	0
	İ	10-58	29-54	6.1-7.3	0	0
	ĺ	58-72	17-47	6.6-7.8	10-20	0
Brownton	   5	   0-22	 	   7.4-8.4	 	
DI OWILCOIL		22-38		7.4-8.4		
	į	38-60	10-20	7.4-8.4	10-20	0-1
L64A:	 	 	 	 		
Tadkee	50	   0-6	5.0-20	6.1-7.8		
	į	6-34	1.0-10	6.1-7.8	j i	
		34-80	10-20	7.4-8.4	10-20	0-1
Tadkee, depressional	l   36	l l 0-6	   30-70	   6.1-7.8		
		6-27	1.0-10	6.1-7.8	i i	
		27-80	10-20	7.4-8.4	10-20	0-1
Better drained soil	   8	   0-6	   3.0-8.0	   6.1-7.3	I 0	0
200001 4141104 2011	İ	6-25	2.0-6.0	5.6-7.3	0	0
	ĺ	25-80	10-20	7.4-8.4	10-20	0-1
Granby	   4	   0=12	   5.0-20	   5.6-7.3	 	
Gramby	, <u>-</u>	•		5.6-7.8		
	į	24-60	1.0-3.0	6.6-8.4	0-20	
Less sandy soil	   2		   5.0-20	   7.4-7.8	   5-15	0
Less sandy soli	<u>2</u> 	0-4   4-20	•	7.4-7.6		
	İ	20-80		•	10-20	
L73A: Blue Earth	l   80	   0-10	   30-70	   7.4-8.4	   5-20	0
2140 241011		10-68	•	7.4-8.4		
	ĺ	68-80	10-20	7.4-8.4	10-20	0-1
Belleville	   10	   0-11	   8.0-29	   6.1-7.3	   0	0
DC11641116	, ±0	•	3.0-8.0	•		0
	İ	27-48	•	6.1-7.3		0
		48-80	10-20	7.4-8.4		0-1

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	   Depth   	Cation-  exchange  capacity	reaction	Calcium   carbon-    ate	
		l In	meq/100 g		Pct	Pct
		i				
L73A:	İ	j	İ	j	j i	
Canisteo	10	0-18	19-37	7.4-8.4	5-15	0
		18-39	6.0-23	7.4-8.4	10-15	0
		39-80 	10-20	7.4-8.4	15-25	0-1
L74A:	 	i i	i	! 		
Estherville	87	0-13	2.0-20	5.6-7.3	j o j	0
		13-18	4.0-20	5.6-7.3	0	0
		18-23	0.0-5.0	5.6-7.3	0	0
		23-60 	0.0-5.0	6.6-8.4 	0-15	0
Hawick	l   10	I   0-7	1.0-10	   6.1-7.8	0-10	0
		7-80	1.0-5.0	7.4-8.4	5-15	0
			1			
Biscay	3	0-20	20-35	6.1-7.8	: :	0
		20-28   28-36	12-25   5.0-20	6.6-7.8   6.6-7.8	0-15   0-15	0
		36-60	1.0-5.0	7.4-8.4	5-30	0   0
L75B:	ĺ	ĺ	İ	ĺ	į į	
Barrington	85	0-15	18-26	5.6-7.3	0	0
		15-33   33-60	16-25   4.0-17	5.6-7.8   6.1-8.4	0-10	0   0
		33-00 	4.0-17	0.1-0.4	0-30   	0
Gladek	10	0-10	15-24	6.1-7.3	0	0
		10-39	15-22	6.1-7.3	0	0
		39-80	7.0-24	7.4-8.4	10-30	0
Madelia	l l 5	   0-19	27-40	   6.1-7.3	I 0 I	   0
Madella	, , 	19-37	17-32	6.6-7.8	: :	0
		37-60	15-28	7.4-8.4	5-20	0
			1			
L76B:	   80	0.14	1 15 20			
Dickinson	80 	0-14   14-39	15-20   15-20	5.6-7.3   5.1-6.5	0     0	0
		39-60	5.0-10	5.6-7.3	:	0
	İ	İ	İ	İ	į į	
Litchfield	13	0-20	6.0-14	5.1-7.3	: :	0
		20-33	3.0-8.0	5.1-7.3	0	0
	 	33-40 40-80	15-24	5.1-7.3   6.1-7.8	   0-5	0
		40-00	1.0-0.0	0.1-7.0	0-3	
Darfur	5	0-9	10-20	6.1-7.3	j o j	0
		9-19	:	6.1-7.3	: :	0
		•	•	6.6-7.8		0
	<u> </u> 	31-60	1.0-10	6.6-7.8 	0-15	0
Clarion	2	0-14	20-25	5.6-7.3	0	0
	İ	14-33	20-25	5.6-7.3	0-15	0
		33-60	10-20	7.4-8.4	10-20	0-1
L77A:	 	l I	1	 		
Brownton	   75	   0-22		   7.4-8.4		
	İ	22-38	!	7.4-8.4		
		38-60	10-20	7.4-8.4	10-20	0-1
Marna	15 	0-20	•	6.1-7.3		
	! 	32-41	•	6.6-7.4		0
	j	41-60	•	7.4-8.4		0-1
	l	I	I	I	ı	

Table 16.--Chemical Properties of the Soils--Continued

In	Map symbol and component name	Pct. of map unit	   Depth   	Cation- exchange capacity	!	  Calcium   carbon-    ate	
Lura			In	•			Pct
Lura			j		i -	i i	
10-58   29-54   6.1-7.3   0   0   58-72   17-47   6.6-7.8   10-20   0   0   58-72   17-47   6.6-7.8   10-20   0   0   0   0   0   0   0   0   0							
	Lura	10	!	!		: :	
L78A:  Canisteo			!	:		: :	
Canisteo			30-72	1/-1/	0.0-7.0	10-20	
18-39   10-20   7.4-8.4   15-25   0-1   39-80   10-20   7.4-8.4   10-20   0-1	L78A:		İ	İ	İ	į į	
Crippin	Canisteo	65	•	!		! ' !	
Crippin			!	:	•	: :	
15-27   20-25   7.4-8.4   5-30   0   27-60   10-20   7.4-8.4   10-20   0-1   0-10   23-37   6.1-7.8   0-5   0   10-35   16-27   6.1-7.8   0-5   0   10-35   16-27   6.1-7.8   0-5   0   35-48   14-25   6.6-7.8   0-5   0   48-60   10-20   7.4-8.4   10-20   0-1   0-10			39-60 	10-20	/.4-0.4 	10-20   	0-1
Glencoe	Crippin	10	0-15	20-25	6.6-8.4	0-25	0
Glencoe			15-27	20-25	7.4-8.4	5-30	0
10-35			27-60	10-20	7.4-8.4	10-20	0-1
10-35	Glencoe	l l 10	l l 0-10	   23-37	   6.1=7.8	   0-5	0
Canisteo, depressional	GIGNOGG	10	!	:		: :	
Canisteo, depressional	İ		35-48	14-25	6.6-7.8	0-5	0
depressional			48-60	10-20	7.4-8.4	10-20	0-1
depressional	Canista		  -		l I		
17-30	-	l   5	I   0-17	   19-37	l   7.4-8.4	   5-15	0
Harps			!	!			
13-30   10-20   7.4-8.4   15-25   0-1   30-60   10-20   7.4-8.4   10-20   0-1			30-60	10-20	7.4-8.4	10-20	0-1
13-30   10-20   7.4-8.4   15-25   0-1   30-60   10-20   7.4-8.4   10-20   0-1		_					
Webster	Harps	5 	!	:		: :	
Webster			:	:		: :	
19-26			İ	į	İ	į į	
L79B:  Clarion	Webster	5	!	!		: :	
L79B:  Clarion			:	:		: :	
Clarion			26-60 	10-20	/.4-0.4 	10-20   	0-1
14-33   20-25   5.6-7.3   0-15   0   33-60   10-20   7.4-8.4   15-25   0-1	L79B:		İ	İ		i i	
Clarion, eroded 25	Clarion	65	!	:		: :	0
Clarion, eroded 25			:	:		: :	
10-38   20-25   5.6-7.3   0-15   0   38-60   10-20   7.4-8.4   15-25   0-1			33-60 	10-20 	7.4-8.4 	15-25   	0-1
Nicollet	Clarion, eroded	25	0-10	20-25	5.6-7.3	0	0
Nicollet			10-38	20-25	5.6-7.3	0-15	0
17-33   15-25   5.6-7.3   0   0     33-36   15-25   7.4-8.4   0-15   0     36-60   10-20   7.4-8.4   10-20   0-1			38-60	10-20	7.4-8.4	15-25	0-1
17-33   15-25   5.6-7.3   0   0     33-36   15-25   7.4-8.4   0-15   0     36-60   10-20   7.4-8.4   10-20   0-1	Nicollet	l I Ω	   0-17	   25_40	   56-73	   0	0
	NICOILCE		:	:		: :	
Webster	İ		33-36	15-25	7.4-8.4	0-15	0
L80C2: Lester, eroded 75			36-60	10-20	7.4-8.4	10-20	0-1
L80C2: Lester, eroded 75	Walantan						0
L80C2: Lester, eroded 75	webster	<b>2</b> 	•	:	•		
Lester, eroded 75			•	•	•		
Lester, eroded 75							
Terril				10.04			•
38-60   10-20   7.4-8.4   15-25   0-1   60-80   10-20   7.4-8.4   10-20   0-1	Lester, eroded	75	•	:		: :	
Terril			!	!	•		
			:	!			
40-63   15-25   6.1-7.3   0   0	Terril	10 	!	!		: :	
			:	•			
i i i i i			:	:		: :	
	İ		l			I i	

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth   	Cation-  exchange  capacity	reaction	Calcium   carbon-    ate	Gypsum
		In	meq/100 g	рН	Pct	Pct
į		į	į -	j	i i	
L80C2:						
Hamel	5	0-24	15-30	5.6-7.3	0	0
!		24-46	15-30	5.6-7.3	0	0
ļ		46-80	10-20	7.4-8.4	10-20	0-1
Reedslake	5	   0-12	1 16-23	   5.6-7.3	I 0 I	0
1.000220110		12-26	13-21	5.6-7.3	: :	0
i		26-48	10-20	7.4-8.4	: :	0-1
j		48-80	10-20	7.4-8.4	10-20	0-1
ļ			ļ			
Storden, eroded	5	0-7	11-18	7.4-8.4	: :	0
!		7-55	9.0-18	7.4-8.4		0
ļ		55-80	10-20	7.4-8.4	10-20	0-1
L80D2:		l I		l I		
Lester, eroded	75	0-7	1 10-24	   5.6-7.3	0 1	0
		7-38	10-23	5.1-7.3	0 1	0
i		38-60	10-20	7.4-8.4	15-25	0-1
İ		60-80	10-20	7.4-8.4	10-20	0-1
ļ			ļ			
Ridgeton	10	0-23	20-25	6.1-7.3	: :	0
!		23-38	20-25	!	0	0
ļ		38-50   50-80	15-25	6.1-7.3	: :	0
		50-80 	10-20	7.4-8.4	10-20   	0-1
Storden, eroded	8	   0-7	1 11-18	   7.4-8.4	5-30	0
		7-55	9.0-18	7.4-8.4	15-30	0
		55-80	10-20	7.4-8.4	10-20	0-1
		!	ļ.			
Terril	5	0-27	20-25	6.1-7.3	: :	0
!		27-40	20-25	6.1-7.3	0	0
		40-63   63-80	15-25   10-20	6.1-7.3   7.4-8.4	0     10-20	0 0-1
· ·		03-00 	1 10-20	/.4-0.4 	10-20   	0-1
Hamel	2	0-24	1 15-30	5.6-7.3	0 1	0
i		24-46	15-30	5.6-7.3	0 1	0
i		46-80	10-20	7.4-8.4	10-20	0-1
I						
L81A:						
Cordova	85	0-18	20-30	6.1-7.3	0	0
		18-38   38-80	15-25   10-20	5.1-6.5   7.4-8.4	0     10-20	0 0-1
i		30-00 	10-20 	/• <del>1</del> -0•1	10-20	0-1
Le Sueur	10	0-17	15-26	5.6-7.3	i o i	0
i		17-37	:	5.1-7.3	: :	0
İ		37-46	10-20	7.4-8.4	15-25	0-1
I		46-80	10-20	7.4-8.4	10-20	0-1
	_					
Rolfe	5	0-12	:	5.1-7.3		0
ļ		12-20	:	5.1-6.5	: :	0
		20-35 35-51	!	6.1-7.3	: :	0
 		51-60	!	7.4-8.4		0-1
i						
L82A:		İ	İ	İ	i i	
Marna	85	0-20	26-48	6.1-7.3	i i	
I		20-32	!	6.1-7.3	: :	
		32-41	:	6.6-7.4		0
		41-60	10-20	7.4-8.4	15-25	0-1

Table 16.--Chemical Properties of the Soils--Continued

Net	Map symbol and component name	Pct. of map	   Depth 	   Cation-  exchange	   Soil  reaction	  Calcium   carbon-	
L82h:  Barbert		unit	İ	capacity	<u> </u>	ate	
Barbert			In	meq/100 g	РĦ	Pct	Pct
	L82A:		 	! 	l İ		
Guckeen	Barbert	10	0-7	j	5.1-6.5	0	0
Guckeen			!			:	0
Guckeen			:	!	•		
15-24			43-60 		6.1-7.8 	0   	U 
L83A:  Webster	Guckeen	5	0-15		5.6-7.3		
L83A:  Webster	j		15-24	j	5.6-7.3	i i	
L83A:  Webster			24-30				
Webster			30-60	10-20	7.4-8.4	10-20	0-1
Webster	T.83A•		l I	 	l I		
Glencoe		65	   0-19	22-32	6.6-7.3	0	0
Glencoe	j		19-26	15-25	6.6-7.8	0-10	0
10-35			26-60	10-20	7.4-8.4	10-20	0-1
10-35	Clanges	1 1 5	0 10	22.27	   6170	0 =	
35-48   14-25   6.6-7.8   0-5   0   48-60   10-20   7.4-8.4   10-20   0-1	Giencoe	13	!	!	•		
Canisteo			•	:	!	:	
18-39   6.0-23   7.4-8.4   10-15   0   39-80   10-20   7.4-8.4   15-25   0-1	j		48-60	10-20	7.4-8.4	10-20	0-1
18-39   6.0-23   7.4-8.4   10-15   0   39-80   10-20   7.4-8.4   15-25   0-1							
Nicollet	Canisteo	10	!	•		!	
Nicollet			!	!			
17-33   15-25   5.6-7.3   0   0     33-36   15-25   7.4-8.4   0-15   0   0     36-60   10-20   7.4-8.4   10-20   0-1						20 20	-
L84A:  Glencoe	Nicollet	10	0-17	25-40	5.6-7.3	0	0
L84A: Glencoe			!	:		:	
L84A:  Glencoe			!	:		:	
Glencoe			36-60 	10-20 	7.4-8.4 	10-20   	0-1
10-35   16-27   6.1-7.8   0-5   0   35-48   14-25   6.6-7.8   0-5   0   48-60   10-20   7.4-8.4   10-20   0-1	L84A:		<u> </u>	i	!	i	
35-48   14-25   6.6-7.8   0-5   0   48-60   10-20   7.4-8.4   10-20   0-1	Glencoe	80	0-10	23-37	6.1-7.8	0-5	0
Very poorly drained   10-20   7.4-8.4   10-20   0-1			:	:		:	
Very poorly drained muck			:	:		:	
muck			40-60 	10-20 	/.4-0.4 	10-20   	0-1
12-29   16-27   6.1-7.8   0-5   0   29-60   10-20   7.4-8.4   10-20   0-1	Very poorly drained		İ	İ	İ	i	
29-60   10-20   7.4-8.4   10-20   0-1	muck	10	0-12	50-150	5.6-7.8	0-5	0
Canisteo			!	:		:	
18-39   10-20   7.4-8.4   15-25   0-1   39-80   10-20   7.4-8.4   10-20   0-1     Harps			29-60 	10-20	7.4-8.4	10-20	0-1
18-39   10-20   7.4-8.4   15-25   0-1   39-80   10-20   7.4-8.4   10-20   0-1     Harps	Canisteo	l   5	I   0-18	   19-37	l   7.4-8.4	   5-15	l l 0
Harps			!			!	
L85A:  Nicollet			39-80	10-20	7.4-8.4	10-20	0-1
L85A:  Nicollet		_					
L85A:  Nicollet	Harps	5	•	:			
L85A:  Nicollet			•				
Nicollet	j		j	į	İ	i i	
17-33   15-25   5.6-7.3   0   0     33-36   15-25   7.4-8.4   0-15   0							
33-36   15-25   7.4-8.4   0-15   0   36-60   10-20   7.4-8.4   10-20   0-1	Nicollet	85	:	:		:	
36-60   10-20   7.4-8.4   10-20   0-1			:	:	•		
Clarion			:	:	•		
14-33   20-25   5.6-7.3   0-15   0   33-60   10-20   7.4-8.4   15-25   0-1				i			
33-60   10-20   7.4-8.4   15-25   0-1                   Webster	Clarion	10	•	•	•		
Webster 5   0-19   22-32   6.6-7.3   0   0   19-26   15-25   6.6-7.8   0-10   0			!	!	•		
19-26   15-25   6.6-7.8   0-10   0			33-60 	10-20	7.4-8.4 	15-25	0-1
19-26   15-25   6.6-7.8   0-10   0	Webster	l   5	   0-19	   22-32	l   6.6-7.3	I I 0	l l 0
		_	:	:	•		
	j		26-60	10-20	7.4-8.4	10-20	0-1
			l				

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and   component name	Pct. of map unit	Depth	Cation-  exchange  capacity	reaction	Calcium   carbon-    ate	Gypsum
	unit	l In	meq/100 g	:	ace     Pct	Pct
ŀ		l +11	Inteq/100 g	pH 	PCL	PCL
L86A:		İ	i	İ	i i	
Madelia	90	0-19	27-40	6.1-7.3	0	0
ļ.		19-37	17-32	6.6-7.8	0	0
ļ		37-60	15-28	7.4-8.4	5-20	0
  Okoboji	5	l   0-26	   41-45	   6.1-7.8	0-15	0
		26-42	41-45	6.6-7.8	0-15	0
į		42-60	36-41	6.6-8.4	0-30	0
. !						
Spicer	3	0-16	28-40	7.4-8.4	: :	0
		16-40   40-60	20-35 15-30	7.4-8.4	5-30   5-30	0
		40-60 	1 15-30	/.4-0.4 	5-30   	U
Kingston	2	0-16	25-35	5.6-7.3	j 0 j	0
I		16-25	15-30	5.6-7.3	0-5	0
		25-60	15-25	7.4-8.4	5-15	0
L87A:		  -	ļ	  -		
Kingston	85	   0-16	25-35	   5.6-7.3	I 0 I	0
]		16-25	15-30	5.6-7.3	: :	0
į		25-60	15-25	7.4-8.4	5-15	0
Truman	10	0-14	20-35	5.6-7.3	: :	0
ŀ		14-36   36-60	15-25   13-23	5.6-7.8 7.4-8.4		0
		30 00	13 23		3 20	Ü
Madelia	5	0-19	27-40	6.1-7.3	j 0 j	0
ļ		19-37	17-32	6.6-7.8	0	0
ļ		37-60	15-28	7.4-8.4	5-20	0
L88A:		l I	 	 	 	
Lura	85	0-10	35-70	6.1-7.8	0-5	0
İ		10-58	29-54	6.1-7.3	0	0
ļ		58-72	17-47	6.6-7.8	10-20	0
Brownton	10	   0-22	 	   7.4-8.4	 	
BIOWIICOII	10	22-38		7.4-8.4	 	
i		38-60	10-20	7.4-8.4	10-20	0-1
İ		ĺ	İ	ĺ	į į	
Organic soil	5	0-10	50-150	5.6-7.8	0-5	0
<u> </u>		10-26   26-48	35-65 20-40	6.1-7.8	0-5     0-5	0
ŀ		20-40   48-80	17-47	6.1-7.8   6.6-7.8	10-20	0
					-0 -0	ŭ
L89A:		İ	İ	j	į į	
Guckeen	82	0-15	:	5.6-7.3		
!		15-24	!	5.6-7.3	: :	
ļ		24-30 30-60	:	6.1-7.3   7.4-8.4		0-1
i		30 00	1 20 20		10 20	0 1
Marna	10	0-20	26-48	6.1-7.3	i i	
ļ		20-32	:	6.1-7.3	: :	
		32-41	:	6.6-7.4	: :	0
		41-60 	10-20	7.4-8.4	15-25	0-1
		l l 0 1 2	20-25	   5.6-7.3	   0	0
Clarion clay loam	8	I 0-T3	1 20-23		1 0 1	U
Clarion clay loam	8	0-13   13-37	:	5.6-7.3	: :	0

Table 16.--Chemical Properties of the Soils--Continued

		'	1	l	1 1	
Map symbol and	Pct.	Depth	Cation-		Calcium	
component name	of map	 	exchange		: :	
	unit	   In	meq/100 g		ate Pct	Pct
i		l	meq/100 g	Pn 	FCC	FCC
L90A:		İ	İ	İ	i i	
Le Sueur	75	0-17	15-26	5.6-7.3	0	0
I		17-37	11-25	5.1-7.3	0	0
		37-46	10-20	7.4-8.4	:	0-1
		46-80	10-20	7.4-8.4	10-20	0-1
   Cordova	13	   0-18	20-30	   6.1-7.3	I 0 I	0
		18-38	15-25	5.1-6.5		0
į		38-80	10-20	7.4-8.4	10-20	0-1
Į.			[			
Reedslake	12	!	16-23	5.6-7.3	:	0
		12-26	13-21	5.6-7.3	:	0
		26-48   48-80	10-20   10-20	7.4-8.4 7.4-8.4	:	0-1 0-1
i		10 00	10 20		10 20	0 1
L91A:		İ	į	İ	j j	
Mazaska	85		22-34	6.1-7.3		0
!		15-42	19-29	4.5-6.5	! !	0
		42-80	10-20	7.4-8.4	15-25	0-1
Lerdal	10	l   0-8	1 18-24	   5.6-6.5	I 0 I	0
		8-12	18-24	5.6-6.5	:	0
i		12-41	19-30	4.5-6.0	j o j	0
İ		41-80	10-20	7.4-8.4	15-25	0-1
   Rolfe	_					•
ROIIE	5	0-12   12-20	20-25 20-25	5.1-7.3   5.1-6.5	:	0
· ·		20-35	:	5.6-7.3	:	0
i		35-51	20-25	6.1-7.3	:	0
j		51-60	10-20	7.4-8.4	:	0-1
		ļ	!		[ [	
L92A:   Darfur	78	   0-9	   10-20	   6.1-7.3	   0	0
Darrur	70	0-3   9-19	10-20	6.1-7.3	:	0
i		19-31	5.0-15	6.6-7.8	:	0
		31-60	1.0-10	6.6-7.8	: :	0
		ļ	!		[ [	
Fieldon	10	0-19	!	7.4-8.4	:	
		19-37   37-60	10-20   1.0-10	7.4-8.4 7.4-8.4	: :	0
i		37-00 	1.0-10		J-30   	
Litchfield	5	0-20	6.0-14	5.1-7.3	; o j	0
I		20-33	3.0-8.0	5.1-7.3	0	0
!		33-40	•	5.1-7.3		
		40-80 	1.0-6.0	6.1-7.8	0-5   	0
Webster	5	   0-19	22-32	   6.6-7.3	   0	0
i		19-26	:	6.6-7.8	0-10	0
		26-60	10-20	7.4-8.4	10-20	0-1
      Dassel	•		10.50			
nasset	2	0-6   6-23	:	5.6-7.3   5.6-7.3		0
ļ		:	:	5.6-7.3	: :	0
i		31-60	:	:	: :	0
į		l	[	l	ļ i	
L93A:	0.0					
Muskego	82	:	140-180	5.6-7.3   7.4-8.4		0
		16-76   76-80	:	7.4-8.4	:	0-1
		,			20	-

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	   Depth 	Cation- exchange capacity	reaction	  Calcium   carbon-    ate	Gypsum
	41120	l In	meq/100 g		Pct	Pct
	 			1	100	100
L93A:	! 	! 	i	İ	i i	
Blue Earth	10	0-10	30-70	7.4-8.4	5-20	0
	İ	10-68	30-70	7.4-8.4	5-40	0
		68-80	10-20	7.4-8.4	10-20	0-1
	_					
Mineral soil, drained	5	0-13	22-33	6.1-7.8	:	
	l I	13-31   31-45	16-27   14-25	6.1-7.8   6.6-7.8	0-5     0-5	
	 	31-43   45-80	10-20	7.4-8.4	0-3     10-20	0-1
	! 	10 00	20 20			-
Belleville	3	0-11	8.0-29	6.1-7.3	i o i	0
	İ	11-27	3.0-8.0	6.1-7.3	j o j	0
		27-48	10-20	6.1-7.3	0	0
		48-80	10-20	7.4-8.4	10-20	0-1
-04-					!!!	
L94A: Lowlein	l l 75	   0-18	   10-25	   6.1-7.3	l I I 0 I	0
romieiu	/5 	18-27	5.0-15	6.1-7.3	! !	0
	l İ	27-46	5.0-15	6.1-7.3	: :	0
	<u> </u>	46-72	5.0-15	6.1-7.3	: :	0
	İ	72-80	10-20	7.4-8.4	10-20	0-1
			1	l		
Linder	15	0-15	15-20	6.1-7.3		0
		15-29	10-15	6.1-7.3	! !	0
	l i	29-60	5.0-10	7.4-8.4	5-30	0
Dickinson	l l 8	   0-14	   15-20	   5.6-7.3	I I I 0 I	0
DICKINGON	ı ° İ	14-39	15-20	5.1-6.5	:	0
	<u> </u>	39-60	5.0-10	5.6-7.3	:	0
	İ	j	İ	İ	į į	
Darfur	2	0-9	10-20	6.1-7.3	0	0
		9-19	10-20	6.1-7.3	0	0
		19-31	5.0-15	6.6-7.8	0	0
	l i	31-60	1.0-10	6.6-7.8	0-15	0
L95E:	l I	l I	I I	l I		
Hawick	l 80	l   0-7	1.0-10	   6.1-7.8	   0-10	0
		7-10	1.0-5.0	6.1-7.8	0-10	0
		10-60	1.0-5.0	7.4-8.4	5-15	0
			1			
Estherville	10	0-8	2.0-20	5.6-7.3	:	0
	l I	8-13	4.0-20	5.6-7.3	: :	0
	 	13-60 	0.0-5.0	6.6-8.4 	0-15   	0
Tomal1	1 10	l 0-33	17-32	l 6.1-7.3	 	
		:	11-21	:	: :	
	İ	42-47	1.0-5.0	6.1-7.3	j j	
		47-80	1.0-5.0	7.4-7.8	1-5	0-1
L96B:						•
Estherville	55 I	:	2.0-20		: :	0
	l I	:	4.0-20   0.0-5.0		: :	0
	! 	:	0.0-5.0		: :	0
	' 	== 00			, - <del></del>	-
Hawick	35	0-7	1.0-10	6.1-7.8	0-10	0
		7-80	1.0-5.0	7.4-8.4	5-15	0

Table 16.--Chemical Properties of the Soils--Continued

	   	   	ļ	   	 	
Map symbol and component name	Pct. of map	Depth 	Cation-  exchange	reaction	: :	
	unit		capacity		ate	D I
	l I	In 	meq/100 g	pH 	Pct	Pct
L96B:	! 	! 	i	! 	i i	
Tomall	8	0-33	17-32	6.1-7.3	i i	
İ	İ	33-42	11-21	6.1-7.3	j j	
		42-47	•	6.1-7.3		
		47-80	1.0-5.0	7.4-7.8	1-5	0-1
P. company						•
Biscay	2	0-20 20-28	20-35	6.1-7.8	: :	0
	l I	20-26	5.0-20	6.6-7.8   6.6-7.8		0
	l İ	36-60		7.4-8.4		0
	İ				i i	
L97C:	İ	j	İ	İ	į į	
Hawick	60	0-7	1.0-10	6.1-7.8	0-10	0
		7-80	1.0-5.0	7.4-8.4	5-15	0
Estherville	   30	0.13	2 0 20			0
Estnerville	30 	0-13   13-18	2.0-20   4.0-20	5.6-7.3 5.6-7.3		0
	 	18-23	!	5.6-7.3	: :	0
i	! 	23-60	0.0-5.0	6.6-8.4	: :	0
İ		İ	İ	İ	i i	
Tomal1	10	0-33	17-32	6.1-7.3		
		33-42	11-21	6.1-7.3		
		42-47		6.1-7.3	: :	
	İ	47-80	1.0-5.0	7.4-7.8	1-5	0-1
L98A:	l İ	l I	l I	l I		
Crippin	l l 50	   0-15	20-25	   6.6-8.4	0-25	0
		15-27	20-25	7.4-8.4		0
İ	İ	27-60	10-20	7.4-8.4	10-20	0-1
Nicollet	40	0-17	25-40	5.6-7.3	: :	0
		17-33	15-25	5.6-7.3		0
	 	33-36 36-60	15-25	7.4-8.4		0 0-1
	 	30-60 	10-20 	/•4-0•4 	10-20   	0-1
Canisteo	!   5	0-18	19-37	7.4-8.4	5-15	0
	İ	18-39	10-20	7.4-8.4	15-25	0-1
İ		39-80	10-20	7.4-8.4	10-20	0-1
_			ļ	<u> </u>		
Clarion	5	0-14	20-25	5.6-7.3		0
	l I	14-33   33-60	20-25 10-20	5.6-7.3 7.4-8.4	: :	0 0-1
	 	33-60 	1 10-20	/•4-0•4 	15 <b>-</b> 25	0-1
L99B:	! 	! 	i	! 	i i	
Clarion	62	0-14	20-25	5.6-7.3	j o j	0
j		14-33	20-25	5.6-7.3	0-15	0
		33-60	10-20	7.4-8.4	15-25	0-1
Swanlake	25	0-9	•	7.4-8.4 7.4-8.4		
	 	9-43 43-60	:	7.4-8.4		
	! 	15-00	10-20	/.1=0.4 	10-20	U - I
Nicollet	10	0-17	25-40	5.6-7.3	i o i	0
		17-33	15-25	5.6-7.3	j 0 j	0
		33-36	15-25	7.4-8.4		
		36-60	10-20	7.4-8.4	10-20	0-1
Wohaton		0.10	22.22			
Webster	] 3 I	0-19   19-26	•	6.6-7.3 6.6-7.8		0
	 	26-60	:	•	10-10	
'			•		. '	

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map	Depth	Cation-  exchange	!	Calcium   carbon-	
	unit		capacity		ate	
		In	meq/100 g	pН	Pct	Pct
L100B:		 		 		
Clarion	45	   0-14	20-25	   5.6-7.3	1 0 1	0
		14-33	20-25	5.6-7.3	: :	0
		33-60	10-20	7.4-8.4	15-25	0-1
Estherville	35		:	5.6-7.3	: :	0
	İ	13-18   18-23	!	5.6-7.3	: :	0
		23-60	0.0-5.0	6.6-8.4	: :	0
		İ	İ	İ	į į	
Lowlein	5	0-14	!	6.1-7.3	: :	0
		14-24	5.0-15	6.1-7.3	: :	0
		24-31	0.0-10	6.1-7.3	: :	0
		31-60 	10-20 	7.4-8.4 	10-20   	0-1
Nicollet	5	0-17	25-40	5.6-7.3	0	0
j		17-33	15-25	5.6-7.3	0	0
		33-36	15-25	7.4-8.4	0-15	0
		36-60	10-20	7.4-8.4	10-20	0-1
Swanlake	l 1 5	l l 0-9	   13-22	   7.4-8.4	1-10	0
2.1.d.12		9-43	10-20	7.4-8.4	: :	0-1
		43-60	10-20	7.4-8.4		0-1
_						
Webster	5	0-19	22-32	6.6-7.3	: :	0
		19-26	15-25	6.6-7.8	: :	0
		26-60 	10-20 	7.4-8.4 	10-20   	0-1
L101C2:		į	İ		i i	
Omsrud, eroded	40	0-9	14-35	5.6-7.3	0	0
		9-19	9.0-22	5.6-7.3	0	0
		19-36	10-20	7.4-8.4	: :	0-1
		36-80 	10-20	7.4-8.4	10-20	0-1
Hawick	30	I   0-7	1.0-10	   6.1-7.8	0-10	0
		7-80	1.0-5.0	7.4-8.4	5-15	0
a	00		11 10			
Storden, eroded	20	0-7   7-55	11-18   10-20	7.4-8.4 7.4-8.4		0 0-1
	İ	7-35   55-80	10-20	7.4-8.4	! ' !	0-1
		33-00	10-20	/.1-0.1	10-20	0-1
Delft	5	0-37		5.6-7.8	j j	
		37-50		6.6-7.8		
		50-60	10-20	7.4-8.4	10-20	0-1
Terril	l l 5	   0-27	20-25	   6.1-7.3	I 0 I	0
		27-40	•	6.1-7.3		0
		40-63	•	6.1-7.3		0
		63-80	10-20	7.4-8.4	10-20	0-1
110102.				 		
L101D2: Omsrud, eroded	40	l   0-9	14-35	   5.6-7.3	I 0 I	0
		!	!	5.6-7.3	: :	0
		19-36	•	7.4-8.4		0-1
		36-80	10-20	7.4-8.4	10-20	0-1
Hawick	25		1.0-10	   6.1-7.8	0.10	0
nawick	_ <u>4</u> 5	0-7   7-80	•	7.4-8.4		
					- 10	
Storden, eroded	20	0-7	11-18	7.4-8.4	5-30	0
		7-55	:	7.4-8.4	: :	
		55-80	10-20	7.4-8.4		0-1

Table 16.--Chemical Properties of the Soils--Continued

		I		I	ı	
Map symbol and	Pct.	   Depth	Cation-	   Soil	  Calcium	Gypsum
component name	of map	į -	exchange		:	
	unit	<u> </u>	capacity	İ	ate	
		In	meq/100 g	рH	Pct	Pct
L101D2:	i			l i		i
Ridgeton	l l 6	l   0-23	   20-25	   6.1-7.3	l   0	l l 0
Ridgeton	0	23-38	20-25	6.1-7.3		l 0
i		38-50	15-25	6.1-7.3	:	0
		50-80	10-20	7.4-8.4		0-1
			ļ.			
Delft	5	0-37	ļ	5.6-7.8		
		37-50   50-60		6.6-7.8   7.4-8.4		   0-1
		30-00	10-20	/.1-0.1	10-20	0-1
Terril	4	0-27	20-25	6.1-7.3	0	0
		27-40	20-25	6.1-7.3		0
		40-63	15-25	6.1-7.3		0
		63-80	10-20	7.4-8.4	10-20	0-1
L102C2:	İ	 	I I	l İ	 	İ
Omsrud, eroded	45	   0-9	1 14-35	   5.6-7.3	0	0
		9-19	9.0-22	5.6-7.3	0	0
İ		19-36	10-20	7.4-8.4	15-25	0-1
	İ	36-80	10-20	7.4-8.4	10-20	0-1
g	0.5			   7.4-8.4		
Storden, eroded	25	0-7   7-55	11-18   10-20	7.4-8.4	5-30     15-25	0 0-1
		55-80	10-20	7.4-8.4	10-20	0-1
		į	į	İ	i i	
Omsrud	15	0-12	14-35	5.6-7.3	0	0
		12-16	9.0-22	5.6-7.3	0	0
		16-32	10-20	7.4-8.4		0-1
		32-60 	10-20	7.4-8.4	10-20	0-1
Terril	10	0-27	20-25	6.1-7.3	0	0
		27-40	20-25	6.1-7.3	0	0
		40-63	15-25	6.1-7.3	0	0
		63-80	10-20	7.4-8.4	10-20	0-1
Delft	l I 5	   0-37	 	   5.6-7.8	 	 
20120		37-50	i	6.6-7.8		
		50-60	10-20	7.4-8.4	10-20	0-1
		!	!			
L102D2: Omsrud, eroded	   45	   0-9	14-35	   5.6-7.3	l     0	l I 0
omsi ud, eroded	1 13	0-3   9-19	9.0-22	5.6-7.3	1 0	l 0
		19-36	10-20	7.4-8.4		0-1
		36-80			10-20	
Storden, eroded	20	0-7	11-18	7.4-8.4		•
		7-55	10-20	•	15-25	
		55-80 	10-20	7.4-8.4 	10-20   	0-1
Omsrud	15	0-12	14-35	5.6-7.3	0	0
		12-16	•	5.6-7.3		0
		16-32	!	7.4-8.4		0-1
	i	32-60	10-20	7.4-8.4	10-20	0-1
Ridgeton	8	   0-23	20-25	   6.1-7.3	   0	0
=		23-38	:	6.1-7.3		0
		38-50	:	6.1-7.3		0
İ		50-80	10-20	7.4-8.4	10-20	0-1
Delft	   6	   0-37		   5.6-7.8	 	 
Detro		37-50	:	6.6-7.8		 
	! 	50-60	:	7.4-8.4		0-1
		i				
	•			•		•

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map	Depth	Cation-	reaction	: :	
	unit	<u> </u>	capacity		ate	
		In	meq/100 g	PH	Pct	Pct
L102D2:		  -		l I		
Terril	6	   0-27	20-25	   6.1-7.3	I 0 I	0
ieiiii	0	27-40	20-25	6.1-7.3	! !	0
		40-63	15-25	6.1-7.3	! !	0
		63-80	10-20	7.4-8.4	: :	0-1
						-
L103A:		İ	i	İ	i i	
Fieldon	50	0-19	15-30	7.4-8.4	5-30	0
I		19-37	10-20	7.4-8.4	5-30	0
		37-60	1.0-10	7.4-8.4	5-30	0
			ļ			
Canisteo	35	0-18	19-37	7.4-8.4		0
		18-39	10-20	7.4-8.4	: :	0-1
		39-80	10-20	7.4-8.4	10-20	0-1
   Darfur	10	l l 0-9	10-20	   6.1-7.3	I I	0
	10	0-9   9-19	10-20	6.1-7.3		0
		19-31	5.0-15	6.6-7.8	: :	0
		31-60	1.0-10	6.6-7.8	: :	0
Glencoe	5	0-10	23-37	6.1-7.8	0-5	0
i		10-35	16-27	6.1-7.8	0-5	0
İ		35-48	14-25	6.6-7.8	0-5	0
I		48-60	10-20	7.4-8.4	10-20	0-1
L105C2:						
Lester, eroded	45	0-7	!	5.6-7.3	: :	0
		7-38	10-23	5.1-7.3	: :	0
		38-60	10-20	7.4-8.4	: :	0-1
		60-80 	10-20	7.4-8.4	10-20	0-1
Hawick	35	I   0-7	1.0-10	   6.1-7.8	0-10	0
		7-80	•	7.4-8.4		0
i		İ	i		i i	
Terril	10	0-27	20-25	6.1-7.3	j o j	0
		27-40	20-25	6.1-7.3	0	0
I		40-63	15-25	6.1-7.3	0	0
		63-80	10-20	7.4-8.4	10-20	0-1
_					!!	
Hamel	5	0-24	15-30	5.6-7.3		
		24-46	15-30	5.6-7.3	: :	
		46-80 	10-20	7.4-8.4	10-20	0-1
Storden, eroded	5	   0-7	   11=18	   7.4-8.4	I 5-30 I	0
beorden, croded	-	7-55	:	7.4-8.4		
		55-80	•	7.4-8.4		
i			i		i i	
L105D2:		j	į	İ	į į	
Lester, eroded	45	0-7	10-24	5.6-7.3	0	0
		7-38	10-23	5.1-7.3	0	0
		38-60	•	7.4-8.4		0-1
		60-80	10-20	7.4-8.4	10-20	0-1
** 1 - 1 -	2-					•
Hawick	35	0-7	•	6.1-7.8		0
		7-80 	1 1.0-5.0	7.4-8.4	5-15	0
Ridgeton	8	   0-23	20-25	   6.1-7.3	   0	0
	J	23-38	•	6.1-7.3	: :	0
		38-50		6.1-7.3		0
i		50-80		7.4-8.4		0-1
			:	:	: :	

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	   Depth   	Cation- exchange capacity	reaction	  Calcium   carbon-    ate	
		In	meq/100 g		Pct	Pct
		İ	İ	İ	į į	
L105D2:	_					
Hamel	5	0-24	15-30	5.6-7.3	! !	
		24-46   46-80	15-30   10-20	5.6-7.3   7.4-8.4	: :	0-1
		<del>1</del> 0-80	10-20	/.1-0.1 	10-20   	0-1
Storden, eroded	5	0-7	11-18	7.4-8.4	5-30	0
j		7-55	10-20	7.4-8.4	15-25	0-1
		55-80	10-20	7.4-8.4	10-20	0-1
Terril	   2	0.07	20.25			0
Terrii	<u>4</u> 	0-27   27-40	20-25 20-25	6.1-7.3   6.1-7.3	: :	0
		40-63	15-25	6.1-7.3	: :	0
		63-80	10-20	7.4-8.4	: :	0-1
İ			ĺ		į į	
L106C2:						
Lester, eroded	62	0-7	10-24	5.6-7.3	:	0
	İ	7-38   38-60	10-23   10-20	5.1-7.3   7.4-8.4		0 0-1
	<u> </u> 	60-80	10-20	7.4-8.4	! ' !	0-1
Storden, eroded	20	0-7	11-18	7.4-8.4	5-30	0
		7-55	10-20	7.4-8.4		0-1
		55-80	10-20	7.4-8.4	10-20	0-1
Terril	10	   0-27	   20-25	   6.1-7.3	l I I 0 I	0
ierrii	1 10	27-40	20-25	6.1-7.3	:	0
		40-63	15-25	6.1-7.3	: :	0
j	İ	63-80	10-20	7.4-8.4	10-20	0-1
_					!!!	
Hamel	5		15-30	5.6-7.3	:	
		24-46   46-80	15-30   10-20	5.6-7.3   7.4-8.4	: :	0-1
					-0 -0	V -
Reedslake	3	0-12	16-23	5.6-7.3	j 0 j	0
		12-26	13-21	5.6-7.3	: :	0
		26-48	10-20	7.4-8.4	:	0-1
		48-80 	10-20	7.4-8.4	10-20	0-1
L106D2:		! 	 	l İ		
Lester, eroded	62	0-7	10-24	5.6-7.3	, 0	0
İ		7-38	10-23	5.1-7.3	j o j	0
		38-60	10-20	7.4-8.4	15-25	0-1
		60-80	10-20	7.4-8.4	10-20	0-1
Storden, eroded	l 20	   0-7	   11-18	   7.4-8.4	l 5-30 l	0
beerden, ereded	20	7-55	!	7.4-8.4		
İ		55-80	:	7.4-8.4	10-20	0-1
			[			
Ridgeton	10	0-23	•	6.1-7.3		0
		23-38	•	6.1-7.3		0
		38-50   50-80	:	6.1-7.3 7.4-8.4		0 0-1
i		30 00	1		10 20	0 1
Terril	5	0-27	20-25	6.1-7.3	i o i	0
		27-40	•	6.1-7.3		0
		40-63	•	6.1-7.3		0
	[ 	63-80	10-20	7.4-8.4	10-20	0-1
Hamel	   3	   0-24	   15-30	   5.6-7.3	 	
		24-46	•	5.6-7.3		
		46-80	•	•	10-20	0-1
	İ	i	I	I	ı i	

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and	Pct.	   Depth	Cation-	   Soil	  Calcium	Gypsum
component name	of map	i -	exchange	reaction	carbon-	
	unit	İ	capacity		ate	
I		In	meq/100 g	pН	Pct	Pct
			1			
L107A:						
Canisteo	50	0-18	19-37	7.4-8.4	5-15	0
		18-39   39-80	10-20   10-20	7.4-8.4 7.4-8.4	15-25     10-20	0-1 0-1
		33-60 	1 10-20	/.4-0.4 	10-20   	0-1
Glencoe	35	0-10	23-37	6.1-7.8	0-5	0
i		10-35	16-27	6.1-7.8	0-5	0
İ		35-48	14-25	6.6-7.8	0-5	0
		48-60	10-20	7.4-8.4	10-20	0-1
Harps	10	0-13	20-30	7.9-8.4	20-40	0
		13-30   30-60	10-20   10-20	7.4-8.4 7.4-8.4	15-25     10-20	0-1 0-1
		30-60 	10-20 	/.4-0.4 	10-20   	0-1
Canisteo,		! 	i	i I	i i	
depressional	3	0-17	19-37	7.4-8.4	5-15	0
i		17-30	12-29	7.4-8.4	12-18	0
I		30-60	10-20	7.4-8.4	10-20	0-1
			1			
Crippin	2	0-15	20-25	6.6-8.4	0-25	0
		15-27	20-25	7.4-8.4	5-30	0
		27-60	10-20	7.4-8.4	10-20	0-1
L108A:		i	i	! 	¦ ¦	
Cordova	65	0-18	20-30	6.1-7.3	i o i	0
i		18-38	15-25	5.1-6.5	j o j	0
İ		38-80	10-20	7.4-8.4	10-20	0-1
		!	!			
Rolfe	30	0-12	20-25	5.1-7.3	! " !	0
		12-20	20-25	!	0	0
		20-35 35-51	20-30	5.6-7.3   6.1-7.3	0-25   0-25	0
		51-60	10-20	7.4-8.4	10-20	0-1
i						
Le Sueur	5	0-17	15-26	5.6-7.3	j o j	0
I		17-37	11-25	5.1-7.3	0	0
		37-46	10-20	7.4-8.4	15-25	0-1
		46-80	10-20	7.4-8.4	10-20	0-1
71007			1			
L109A: Marna	65	l   0-20	26-48	   6.1-7.3		
Mariia	05	20-32	22-48	6.1-7.3		
		32-41	15-25	6.6-7.4	i o i	0
i		41-60	10-20	7.4-8.4	15-25	0-1
I				l		
Barbert	30	0-7	:	5.1-6.5	: :	0
		7-17	•	5.1-6.5		0
		17-43	:	5.1-7.3		0
		43-60 		6.1-7.8	0	0
Guckeen	5	   0-15		   5.6-7.3	 	
	3	15-24	•	5.6-7.3		
		24-30	:	6.1-7.3	: :	
į		30-60	10-20	7.4-8.4	10-20	0-1
L110E:	_					
Lester	50	0-5	!	5.6-7.3	: :	
		5-34	•	5.1-7.3		0-1
		34-60 60-80	•	7.4-8.4 7.4-8.4		

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	   Depth   	Cation- exchange capacity	reaction	  Calcium   carbon-    ate	
		l In	meq/100 g		Pct	Pct
		İ	į	j	į į	
L110E:						
Ridgeton	30	0-32	20-25 1 15-25	6.1-7.3	! !	0
		32-40   40-80	15-25   10-20	6.1-7.3   7.4-8.4	: :	0-1
			20 20		-0 -0	V -
Cokato	10	0-16	15-25	5.6-7.3	j o j	0
		16-30	15-20	5.6-7.3		0
		30-60	10-20	7.4-8.4	15-25	0-1
Belview	l l 6	   0-9	   11-18	   7.4-8.4	   5-30	0
De1view	0	:	10-20	7.4-8.4	: :	0-1
		50-60	10-20	7.4-8.4	: :	0-1
İ			İ		į į	
Hamel	2	0-22	15-30	5.6-7.3	: :	
		22-41	15-30	5.6-7.3	: :	
		41-80 	10-20	7.4-8.4	10-20	0-1
Terril	2	   0-24	20-25	   6.1-7.3	¦ ¦	
		24-37	20-25	6.1-7.3	i i	
İ		37-57	15-25	6.1-7.3	i i	
		57-80	10-20	7.4-8.4	10-20	0-1
L110F:	   55	l l 0-6	   10-24	   5.6-7.3	l     0	0
Lester	33	6-0   6-25	10-24	5.1-7.3	: :	0
		25-60	10-20	7.4-8.4	10-20	0-1
		İ	İ	İ	į į	
Ridgeton	30	0-32	20-25	6.1-7.3	0	0
		32-40	15-25	6.1-7.3	0	0
		40-80 	10-20 	7.4-8.4 	10-20	0-1
Cokato	8	   0-16	1 15-25	   5.6-7.3	0	0
İ		16-30	15-20	5.6-7.3	j o j	0
		30-60	10-20	7.4-8.4	15-25	0-1
Belview	4	0-9   9-50	11-18   10-20	7.4-8.4 7.4-8.4	: :	0 0-1
		9-50   50-60	10-20	7.4-8.4		0-1
						, -
Terril	2	0-24	20-25	6.1-7.3	j j	
		24-37	20-25	6.1-7.3		
		37-57	15-25	6.1-7.3		
		57-80 	10-20	7.4-8.4	10-20	0-1
Hamel	1	   0-22	1 15-30	   5.6-7.3		
		22-41		5.6-7.3		
		41-80	10-20	7.4-8.4	10-20	0-1
		ļ	!		!!!	
L111A: Nicollet	l 85	0.10	25 40			0
Nicollet	85 	0-10   10-31	•	5.6-7.3   5.6-7.8	: :	
		31-42	:	7.4-8.4		
İ		42-80	10-20	7.4-8.4	10-20	0-1
			[		ļ İ	
Clarion	10	0-14	•	5.6-7.3		0
		14-33   33-60	•	5.6-7.3 7.4-8.4		
		33 <b>-</b> 60	10-20	/•==0•# 	13-23	0-1
Webster	5	0-24	22-32	   6.6-7.3	0	0
		24-45	•	6.6-7.8		0
		45-80	10-20	7.4-8.4	10-20	0-1
		I	I	I	1	

Table 16.--Chemical Properties of the Soils--Continued

			I	I	I	
Map symbol and component name	Pct. of map	Depth	exchange	:	:	
	unit	   In	capacity meq/100 g	L   рн	ate Pct	Pct
		l	meq/100 g	PH	FCC	FCC
L112A:			İ	İ	i i	
Webster	85	0-24	22-32	6.6-7.3	0	0
		24-45	15-25	6.6-7.8		0
		45-80 	10-20	7.4-8.4	10-20	0-1
Glencoe	10	   0-10	23-37	   6.1-7.8	   0-5	l l 0
		10-35	16-27	6.1-7.8	:	0
İ		35-48	14-25	6.6-7.8	0-5	0
		48-60	10-20	7.4-8.4	10-20	0-1
Nicollet	l I 5	   0-10	25-40	   5.6-7.3	   0	l I 0
NICOITEC	) 	10-10	15-25	5.6-7.8	:	l 0
		31-42	10-20	7.4-8.4	15-25	0-1
j		42-80	10-20	7.4-8.4	10-20	0-1
				<u> </u>	[	
L113B: Reedslake	   75	0.10	16.00	   5.6-7.3		
Reedslake	/5 	0-12   12-26	16-23   13-21	5.6-7.3	0   0	0   0
i		26-48	10-20	7.4-8.4	:	0-1
		48-80	10-20	7.4-8.4	10-20	0-1
				!	[	
Le Sueur	10		15-26	5.6-7.3	0	0
		17-37   37-46	11-25	5.1-7.3 7.4-8.4		0 0-1
		37-46   46-80	10-20   10-20	7.4-8.4 7.4-8.4		0-1   0-1
		10 00	10 20	/	10 20	0 =
Reedslake, eroded	10	0-12	16-23	5.6-7.3	0	0
		12-26	13-21	5.6-7.3	!	0
		26-48	10-20	7.4-8.4		0-1
		48-80 	10-20	7.4-8.4	10-20   	0-1
Cordova	5	   0-18	20-30	6.1-7.3	l 0	0
İ		18-38	15-25	5.1-6.5	, 0	0
		38-80	10-20	7.4-8.4	10-20	0-1
L114A: Hanlon, rarely			 	 	 	
flooded	l 85	   0-24	1 15-20	6.1-7.3	I 0	0
		24-52	10-15	6.1-7.3	0	0
İ		52-57	5.0-10	5.6-7.3	0	0
		57-80	5.0-10	5.6-7.8	0-15	0
Colond oggazionalia				  -		
Coland, occasionally flooded	10	   0-25	   30-36	   6.1-7.3	   0	l l 0
1100000	10	25-54	•	6.1-7.3		0
		54-60	•	6.1-7.8		0
		l	[			
Minneopa, rarely	_		11 00			
flooded	5	0-15	•	5.6-7.3   6.1-7.3		0   0
		20-60	•	6.1-8.4		0
		i	j	j	i i	
L115A:				<u> </u>		
Brownton	55	0-22	•	7.4-8.4		
		22-38 38-60	•	7.4-8.4		0-1
		50-00	10-20	'o	10-20	0-1
Lura	35	0-10	35-70	6.1-7.8	0-5	0
		10-58	•	6.1-7.3		0
		58-72	17-47	6.6-7.8	10-20	0
		I	I	I	I	

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct.	   Depth	   Cation-  exchange	:	  Calcium  carbon-	
	unit	<u> </u>	capacity	<u> </u>	ate	
	l	In	meq/100 g	pН	Pct	Pct
*115						
L115A: Marna	   10	   0-20	   26-48	   6.1-7.3	 	
Mariia	10 	20-32	22-48	6.1-7.3		
	! 	32-41	15-25	6.6-7.4	0	0
	İ	41-60	10-20	7.4-8.4	15-25	0-1
L116A:	 	 		 		
Le Sueur	l I 45	   0-17	15-26	5.6-7.3	0	0
	İ	17-37	11-25	5.1-7.3	0	0
	İ	37-46	10-20	7.4-8.4	15-25	0-1
	į	46-80	10-20	7.4-8.4	10-20	0-1
Lerdal	   40	   0-8	   18-24	   5.6-6.5	   0	0
	i	8-12	18-24	5.6-6.5	0	0
	İ	12-41	19-30	4.5-6.0	0	0
	į	41-80	10-20	7.4-8.4	15-25	0-1
Mazaska	   10	   0-15	22-34	   6.1-7.3	l 0	0
	İ	15-42	19-29	4.5-6.5	0	0
		42-80	10-20	7.4-8.4	15-25	0-1
Kilkenny	l l 5	   0-11	20-30	   5.6-7.3		
-	İ	11-35	25-35	5.1-7.3	i i	
		35-80	10-20	7.4-8.4	10-20	0-1
L117C2:	 	 		 		
Omsrud, eroded	l 65	0-9	14-35	5.6-7.3	0	0
•	İ	9-19	9.0-22	5.6-7.3	0	0
	ĺ	19-36	10-20	7.4-8.4	15-25	0-1
		36-80	10-20	7.4-8.4	10-20	0-1
Omsrud	   15	   0-12	14-35	5.6-7.3	0	0
		12-16	9.0-22	5.6-7.3	0	0
		16-32	10-20	7.4-8.4	15-25	0-1
	 	32-60 	10-20	7.4-8.4	10-20	0-1
Terril	1 10	0-27	20-25	6.1-7.3	0	0
		27-40	20-25	6.1-7.3	0	0
		40-63	15-25	6.1-7.3	0	0
	 	63-80 	10-20	7.4-8.4	10-20	0-1
Delft	   5	0-37		5.6-7.8		
		37-50		6.6-7.8		
	 	50-60 	10-20	7.4-8.4	10-20	0-1
Storden, eroded	l   5	0-7	11-18	7.4-8.4	5-30	0
		7-55	10-20	7.4-8.4	15-25	0-1
		55-80	10-20	7.4-8.4	10-20	0-1
L118A:	! 	l I		! 		
Rushriver, frequently	j	j	İ	İ	į į	
flooded	85	0-41	3.0-13	7.4-8.4	5-20	0
		41-80	3.0-13	7.4-8.4	5-20	0
Houghton, frequently	! 	i I		! 		
flooded	5	0-60	140-200	4.5-7.8	0	0
Klossner, frequently	 	l I	 	 		
flooded		0-22	150-200	5.6-7.8	0-15	
		22-45	•	6.1-7.8		
		45-60	20-50	6.1-7.8	0-30	
	l	I	I	I	1	

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth   	:	reaction	Calcium   carbon-    ate	Gypsum
		In	meq/100 g	•	Pct	Pct
İ		İ	İ	İ	i i	
L118A:		ĺ	İ	ĺ	į į	
Medo, frequently						
flooded	5	0-25	40-100	6.1-7.8	0-10	0
		25-31	20-55	6.1-7.8	0-5	0
		31-45	20-55	6.1-7.8	0-5	0
		45-80	1.0-9.0	6.1-8.4	0-15	0
71100	i		!	ļ	!!	
L119B:	l l 80	l l 0-8	1 10-24	   5.6-7.3	I 0 I	0
Angus	60 	0-8   8-35	10-24	5.1-7.3	1 0 1	0
		35-40	8.0-18	6.1-7.8	5-20	0
		40-80	10-20	7.4-8.4	10-20	0-1
		1	1 10 20	/•1 0•1	10 20	0 1
Angus, eroded	10	0-8	10-24	5.6-7.3	i o i	0
3,		8-40	10-23	5.1-7.3	i 0 i	0
i		40-60	10-20	7.4-8.4	15-25	0-1
İ		İ	İ	İ	i i	
Cordova	5	0-18	20-30	6.1-7.3	0	0
j		18-38	15-25	5.1-6.5	0	0
		38-80	10-20	7.4-8.4	10-20	0-1
Le Sueur	5	0-17	15-26	5.6-7.3	0	0
		17-37	11-25	5.1-7.3	0	0
		37-46	10-20	7.4-8.4	15-25	0-1
		46-80	10-20	7.4-8.4	10-20	0-1
71007	i		!	ļ	!!!	
L120A: Good Thunder	l l 80	   0-15	   30-45	 	I 0 I	0
Good Thunder	80 	15-32	25-45	5.6-7.3 5.1-7.3	1 0 1	0
		32-80	15-25	7.4-8.4	1 10-20	0
		32-60 	1 13-23	/	10-20	U
Ocheyedan	10	0-10	20-25	5.6-7.3	0 1	0
		10-30	20-25	6.1-7.8	0-15	0
		30-60	20-25	6.6-8.4	0-30	0
		į	İ	İ	i i	
Minnetonka	10	0-13	24-43	5.6-7.3	j j	
		13-35	21-47	5.6-7.3		
		35-60	15-32	6.6-7.8	5-20	
L121B:			!	!		
Clarion	80	0-13	20-25	5.6-7.3	0	0
	i	13-37	20-25	5.6-7.3	0-15	0
		37-80	10-20	7.4-8.4	10-20	0-1
Guckeen	15	   0-15	 	   5.6-7.3		
Guckeen	1 13	15-24	:	5.6-7.3	: :	
		24-30	•	6.1-7.3		
		30-60		7.4-8.4		0-1
i			-0 -0		-0 -0	· -
Marna	5	0-20	26-48	6.1-7.3	i i	
i		20-32	•	6.1-7.3		
i		32-41	:	6.6-7.4	: :	0
İ		41-60	10-20	7.4-8.4	15-25	0-1
j		l	I		ı i	
L122B:					I İ	
Reedslake	55	0-12	16-23	5.6-7.3	0	0
		12-26	13-21	5.6-7.3	0	0
		26-48	:	7.4-8.4		0-1
		48-80	10-20	7.4-8.4	1 10 00 1	0-1

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct.	   Depth 	   Cation-  exchange	•	  Calcium   carbon-	
	unit		capacity		ate	
		In	meq/100 g	pН	Pct	Pct
			ļ	!	!!!	
L122B:	0.5					•
Estherville	25	0-13   13-18		5.6-7.3   5.6-7.3	: :	0
		18-23	!	5.6-7.3	: :	0
		23-60	•	6.6-8.4		0
		1 23 00	0.0 5.0	0.0 0.1 	0 13	
Le Sueur	10	0-17	15-26	5.6-7.3	i o i	0
i		17-37	11-25	5.1-7.3	: :	0
		37-46	10-20	7.4-8.4	15-25	0-1
j		46-80	10-20	7.4-8.4	10-20	0-1
				l		
Cordova	5	0-18	20-30	6.1-7.3	0	0
		18-38	15-25	5.1-6.5	: :	0
		38-80	10-20	7.4-8.4	10-20	0-1
	_					
Lowlein	5	0-14	10-25	6.1-7.3		0
		14-24	5.0-15	6.1-7.3	: :	0
	İ	24-31   31-60	0.0-10	6.1-7.3   7.4-8.4		0 0-1
		31-00	1 10-20	/.1-0.1	10-20   	0-1
L123A:		i	i	i İ	i i	
Belleville	85	0-11	8.0-29	6.1-7.3	i o i	0
		11-27	:	6.1-7.3	: :	0
		27-48	10-20	6.1-7.3	j o j	0
j		48-80	10-20	7.4-8.4	10-20	0-1
Granby	15	0-12	5.0-20	5.6-7.3	0	0
		12-24	1.0-10	5.6-7.8	: :	0
		24-60	1.0-3.0	6.6-8.4	0	0
L124A:		 		 		
Glencoe mucky clay		 		! !		
loam	l 85	0-10	41-50	6.1-7.8	0-15	0
		10-29	16-27	6.1-7.8	: :	0
i		29-42	14-25	6.6-7.8	: :	0
		42-60	10-20	7.4-8.4	10-20	0-1
j		ĺ	İ	ĺ	į į	
Canisteo	10	0-18	19-37	7.4-8.4	5-15	0
		18-39	10-20	7.4-8.4		0-1
		39-80	10-20	7.4-8.4	10-20	0-1
	_					
Glencoe clay loam	5	0-10	23-37	6.1-7.8	: :	0
	İ	10-35   35-48	16-27   14-25	6.1-7.8   6.6-7.8	0-5     0-5	0
		33-46	•	•	1 10-20	
		40-00 	1 10-20	/.4-0.4 	10-20   	0-1
L125A:		i	i	i	i i	
Hanlon, rarely		İ	i	İ	i i	
flooded	60	0-24	15-20	6.1-7.3	0	0
		24-52	10-15	6.1-7.3	0	0
		52-57	•	5.6-7.3	0	0
		57-80	5.0-10	5.6-7.8	0-15	0
			ļ	!	!!!	
Coland, occasionally						•
flooded	25	0-25	•	6.1-7.3		0
		25-54	:	6.1-7.3		0
	] 	54-60 	20-30	6.1-7.8	0-20	0
Minneopa, rarely	 	 		! 		
	15	   0-15	11-20	   5.6-7.3	I 0 I	0
flooded						
	1	•	:	6.1-7.3	: :	0
	13	15-20	•	•	j o j	

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	   Depth 	   Cation-  exchange  capacity	   Soil  reaction 	  Calcium   carbon-    ate	
		In	meq/100 g	pH	Pct	Pct
L126A: Coland, occasionally flooded	80	     0-25   25-54   54-60	     30-36   30-36   20-30	     6.1-7.3   6.1-7.8		   0   0
Minneopa, occasionally flooded	10	   0-15   15-20   20-60	   11-20   4.0-10   1.0-6.0	   5.6-7.3   6.1-7.3   6.1-8.4	   0     0     0-15	   0   0
Havelock, occasionally flooded	5	   0-23   23-35   35-60	30-36 30-36 10-20	7.4-8.4 7.4-8.4 7.4-8.4	5-30     5-30     5-30	0   0   0
Spillville, occasionally flooded	5	     0-51   51-60 	   20-25   20-25	     5.6-7.3   5.6-7.3	 	     0   0
L127A: Coland, frequently flooded	80	   0-12   12-30   30-55   55-80	30-36 30-36 30-36 20-30	   6.1-7.3   6.1-7.3   6.1-7.3   6.1-7.8	   0     0     0	   0   0   0
Minneopa, occasionally flooded	10	   0-16   16-29   29-60	   11-20   4.0-10   1.0-6.0	   5.6-7.3   6.1-7.3   6.1-8.4		   0   0
Havelock, frequently flooded	5	   0-30   30-40   40-60	   30-36   30-36   10-20	   7.4-8.4   7.4-8.4   7.4-8.4	   5-30     5-30     5-30	   0   0
Spillville, occasionally flooded	5	   0-51   51-60	20-25 20-25	   5.6-7.3   5.6-7.3	   0     0	   0   0
L128A: Mazaska	60	0-15 15-42 42-80	19-29	   6.1-7.3   4.5-6.5   7.4-8.4	j o j	0 0 0-1
Rolfe	30	0-12   12-20   20-35   35-51   51-60	20-25 20-30 20-25	5.1-7.3   5.1-6.5   5.6-7.3   6.1-7.3   7.4-8.4	0   0-25	0
Lerdal	10	   0-8   8-12   12-41   41-80	18-24 19-30	   5.6-6.5   5.6-6.5   4.5-6.0   7.4-8.4	0     0	0 0 0 0-1
L129B: Terril	90	0-27 27-40 40-63 63-80	20-25 15-25	   6.1-7.3   6.1-7.3   6.1-7.3   7.4-8.4	0     0	0 0 0 0-1

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth In	exchange capacity	Soil reaction	: :	Gypsum
component name	of map unit	_	exchange capacity		carbon-	Gypsum
L129B:	unit	In	capacity	reaction	: :	
1		In				
1		In			ate	
1			meq/100 g	pН	Pct	Pct
				l i		
	5	0-37	 	   5.6-7.8	 	
Delic	5	37-50		6.6-7.8	 	
i		50-60	1 10-20	7.4-8.4	1 1	0-1
i			=0 =0			· -
Hamel	5	0-24	15-30	5.6-7.3	i i	
i		24-46	15-30	5.6-7.3	i i	
İ	i	46-80	10-20	7.4-8.4	10-20	0-1
İ	j		ĺ	ĺ	į į	
L130A:						
Okoboji mucky silty						
clay loam	75	0-13		6.1-7.8	: :	0
ļ.		13-35	41-45	6.6-7.8	0-15	0
!		35-60	36-41	6.6-8.4	0-30	0
					!!	
Okoboji silty clay	1.5	0.06	41 45			•
loam	15	0-26 26-42	41-45 41-45	6.1-7.8 6.6-7.8	0-15     0-15	0
+		42-60	36-41	6.6-7.8	0-15     0-30	0
+		12-00	30-41 	0.0-0. <del>1</del>	0-30   	U
Brownton	5	0-22		7.4-8.4	 	
	-	22-38		7.4-8.4	i i	
i		38-60	10-20	7.4-8.4	10-20	0-1
į.			j i	İ	i i	
Spicer	5	0-16	28-40	7.4-8.4	5-30	0
1		16-40	20-35	7.4-8.4	5-30	0
1		40-60	15-30	7.4-8.4	5-30	0
1						
M-W.			!			
Water, miscellaneous			!		!!!	
U3B.				 	 	
Udorthents (cut and   fill land)		 	1	] 	ı	
riii land)		] 	 	] 	, l	
w.				 	ı   	
Water		! 	i	! 	;	
1			i	i	; ;	

Table 17.--Soil Moisture Status by Depth

(See text for definitions of terms used in this table. Depths of layers are in feet)

and	Hydro-  logic	January 	February	March	April	May	June	July 	August	September	October	November	Decembe
component name	group	<u> </u>	<u> </u>	<u> </u>							<u> </u>		
GP:	l I	 	-	 	 	l I	l I		-	-	 	-	1
Pits, gravel.	 	i I	i	i	i	i	i	i	i	i	i	i	
	j	İ	j	İ	i	i	i	i	į	i	İ	i	i
Udipsamments.					İ	į	į	į	İ	İ	į	İ	į
L5A:	 	 		 		1	1				 		
Delft, overwash	В/D	0.0-3.6:	0.0-4.3:	0.0-2.5:	0.0-1.5:	0.0-2.0:	0.0-2.5:	0.0-3.6:	0.0-4.5:	0.0-3.6:	0.0-2.6:	0.0-2.0:	0.0-3.0:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		3.6-6.7:	4.3-6.7:	2.5-6.7:	1.5-6.7:	2.0-6.7:	2.5-6.7:	3.6-6.7:	4.5-6.7:	3.6-6.7:	2.6-6.7:	2.0-6.7:	3.0-6.7:
	ļ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Delft	   B/D	  0.0-2.6:	0.0-3.3:	0.0-1.0:	  0.0-0.5:	  0.0-0.7:	  0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
	į	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	İ	2.6-5.0:	3.3-5.0:	1.0-5.0:	0.5-5.0:	0.7-5.0:	1.0-5.0:	2.6-5.0:	3.3-5.0:	2.6-5.0:	1.6-5.0:	1.0-5.0:	1.3-5.0:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Glencoe	   B/D	  0.0-1.5:	0.0-2.0:	  0.0-5.0:	  0.0-5.0:	  0.0-0.5:	  0.0-1.0:	  0.0-1.5:	0.0-2.0:	  0.0-1.5:	0.0-1.0:	  0.0-1.0:	0.0-1.0:
	į	Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	İ	1.5-5.0:	2.0-5.0:	j	j	0.5-5.0:	1.0-5.0:	1.5-5.0:	2.0-5.0:	1.5-5.0:	1.0-5.0:	1.0-5.0:	1.0-5.0:
		Wet	Wet		İ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Terril	   в	  0.0-4.9:	  0.0-6.7:	0.0-3.0:	0.0-2.5:	  0.0-2.6:	  0.0-3.0:	  0.0-4.9:	  0.0-6.7:	0.0-4.9:	0.0-3.9:	0.0-3.0:	0.0-3.3:
	İ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	ĺ	4.9-6.7:	j	3.0-6.7:	2.5-6.7:	2.6-6.7:	3.0-6.7:	4.9-6.7:	j	4.9-6.7:	3.9-6.7:	3.0-6.7:	3.3-6.7:
		Wet		Wet	Wet	Wet	Wet	Wet		Wet	Wet	Wet	Wet
L13A:	 	 		 					]		 		
Klossner,	ĺ	ĺ	İ	ĺ	İ	İ	İ	İ	İ	İ	İ	İ	İ
drained	A/D	0.0-1.5:	0.0-2.0:	0.0-6.7:	0.0-6.7:	0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
		Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.5-6.7:	2.0-6.7:			0.5-6.7:	1.0-6.7:	1.5-6.7:	2.0-6.7:	1.5-6.7:	1.0-6.7:	1.0-6.7:	1.0-6.7:
		Wet	Wet			Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Mineral soil,	 	 		 					]		 		
drained	B/D	0.0-1.5:	0.0-2.0:	0.0-6.7:	0.0-6.7:	0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
	ĺ	Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.5-6.7:	2.0-6.7:			0.5-6.7:	1.0-6.7:	1.5-6.7:	2.0-6.7:	1.5-6.7:	1.0-6.7:	1.0-6.7:	1.0-6.7:
	ļ	Wet	Wet			Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Houghton,	 	! 	1	 		1	i i		 		 		
drained	A/D	0.0-1.5:	0.0-2.0:	0.0-6.7:	0.0-6.7:	0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
	İ	Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	İ	1.5-6.7:	2.0-6.7:	j	j	0.5-6.7:	1.0-6.7:	1.5-6.7:	2.0-6.7:	1.5-6.7:	1.0-6.7:	1.0-6.7:	1.0-6.7:
		Wet											Wet

	1	1	1		1	1	1	1	1	1	1	1	1
Map symbol and component name	  Hydro-  logic  group	   January   	   February 	   March   	April 	May 	June	July   	   August 	  September 	October	November 	December
7142													
L14A: Houghton,		I I	I I		-	}			1	I I	}	I	-
drained	A/D	0.0-1.5:	0.0-2.0:	0.0-6.7:	0.0-6.7:	0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
	İ	Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	ļ	1.5-6.7:	2.0-6.7:	ļ	ļ	0.5-6.7:	1.0-6.7:	1.5-6.7:	2.0-6.7:	1.5-6.7:	1.0-6.7:	1.0-6.7:	1.0-6.7:
		Wet	Wet	l i	1	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Klossner,	İ	 			İ	İ	1	i i	İ	1	İ		
drained	A/D	0.0-1.5:	0.0-2.0:	0.0-6.7:	0.0-6.7:	0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
		Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	ļ	1.5-6.7:	2.0-6.7:			0.5-6.7:	1.0-6.7:	1.5-6.7:	2.0-6.7:	1.5-6.7:	1.0-6.7:	1.0-6.7:	1.0-6.7:
	 	Wet	Wet		}	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Mineral soil,	i		İ	i	i	i	i	i	i	İ	i	İ	i
drained	B/D	0.0-1.5:	0.0-2.0:	0.0-6.7:	0.0-6.7:	0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
	ļ.	Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.5-6.7:   Wet	2.0-6.7:   Wet			0.5-6.7: Wet	1.0-6.7:   Wet	1.5-6.7:   Wet	2.0-6.7:   Wet	1.5-6.7:   Wet	1.0-6.7:   Wet	1.0-6.7:   Wet	1.0-6.7:   Wet
	 	wet	wet	i	1	wet	wet	wet	wet	wet	wet	wet	wet
L15A:	i	İ	i	İ	i	j	i	i	i	i	j	j	i
Klossner, ponded	A/D	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Okoboji, ponded	l C/D	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:
	į	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Glencoe, ponded	   B/D	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:
	į i	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
							1	1	1				
Houghton, ponded	A/D	0.0-6.7:   Wet	0.0-6.7:   Wet	0.0-6.7:   Wet	0.0-6.7: Wet	0.0-6.7: Wet	0.0-6.7:   Wet	0.0-6.7:   Wet	0.0-6.7:   Wet	0.0-6.7:   Wet	0.0-6.7: Wet	0.0-6.7:   Wet	0.0-6.7: Wet
	İ	Wet	wec	wet	wec	wec	Wet	Wet	Wet	wec	Wet	Wet	wec
L16A:	j	j	j	j	i	i	i	i	i	j	i	j	i
Muskego, ponded	A/D	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Blue Earth,	 	 	I I	i	1	1			1		1	I I	
ponded	B/D	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:
	ļ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Houghton nonded	   a/D	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:
Houghton, ponded	A/D	0.0-6.7:   Wet	Wet	0.0-6.7:   Wet	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:   Wet	0.0-6.7:	Wet	0.0-6.7:	Wet	Wet
	i												
Klossner, ponded	A/D	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
	ļ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	1	1	1	1	1	1	1	1	1	1	1	1	1

Table 17.--Soil Moisture Status by Depth--Continued

Table 17.--Soil Moisture Status by Depth--Continued

and	Hydro-  logic  group	January   	February 	March   	April 	May 	June 	July 	August 	September   	October   	November	December
L26B:	 	 				 	 	 					1
Shorewood	c 	0.0-5.0:   Moist	0.0-5.0:   Moist	0.0-3.0:   Moist	0.0-1.5:   Moist	0.0-2.5:   Moist	0.0-3.5:   Moist	0.0-5.0:   Moist	0.0-5.0:   Moist	0.0-5.0:   Moist	0.0-5.0:   Moist	0.0-4.6:   Moist	0.0-4.6:   Moist
	 	 		3.0-4.0:   Wet	1.5-2.5:   Wet	2.5-3.5:   Wet	3.5-5.0:   Wet				 	4.6-5.0:   Wet	4.6-5.0:   Wet
	 	 		4.0-4.4:   Moist	2.5-3.0:   Moist	3.5-3.9:   Moist		 			 	 	
	 	 		4.4-5.0:   Wet	3.0-5.0:   Wet	3.9-5.0:   Wet							
Good Thunder	   C	  0.0-3.9:   Moist	  0.0-5.6:   Moist	  0.0-2.8:   Moist	  0.0-2.5:   Moist	  0.0-2.5:   Moist	  0.0-2.8:   Moist	  0.0-3.9:   Moist	  0.0-5.6:   Moist	  0.0-3.9:   Moist	  0.0-3.0:   Moist	  0.0-2.6:   Moist	  0.0-2.8:   Moist
	   	MOISC  3.9-6.7:   Wet	5.6-6.7:   Wet	2.8-6.7:   Wet	2.5-6.7:   Wet	2.5-6.7:   Wet	2.8-6.7:   Wet	3.9-6.7:   Wet	5.6-6.7:   Wet	3.9-6.7:   Wet	3.0-6.7:   Wet	2.6-6.7:   Wet	2.8-6.7:   Wet
Minnetonka	   C/D 	  0.0-2.0:   Moist	Moist	  0.0-0.8:   Moist	  0.0-0.5:   Moist	  0.0-0.5:   Moist	  0.0-0.8:   Moist	  0.0-2.0:   Moist	  0.0-2.5:   Moist	  0.0-2.0:   Moist	  0.0-1.5:   Moist	  0.0-0.7:   Moist	  0.0-1.0:   Moist
	   	2.0-5.0:   Wet	2.5-5.0:   Wet	0.8-5.0:   Wet	0.5-5.0:   Wet	0.5-5.0:   Wet	0.8-5.0:   Wet	2.0-5.0:   Wet	2.5-5.0:   Wet	2.0-5.0:   Wet	1.5-5.0:   Wet	0.7-5.0:   Wet	1.0-5.0:   Wet
L36A:	i	! 											
Hamel, overwash	B 	0.0-3.6:   Moist	Moist	0.0-2.5:   Moist	0.0-1.5:   Moist	0.0-2.0:   Moist	0.0-2.5:   Moist	0.0-3.6:   Moist	0.0-4.5:   Moist	0.0-3.6:   Moist	0.0-2.6:   Moist	0.0-2.0:   Moist	0.0-3.0:   Moist
	 	3.6-6.7:   Wet	4.3-6.7:   Wet	2.5-6.7:   Wet	1.5-6.7:   Wet	2.0-6.7:   Wet	2.5-6.7:   Wet	3.6-6.7:   Wet	4.5-6.7:   Wet	3.6-6.7:   Wet	2.6-6.7:   Wet	2.0-6.7:   Wet	3.0-6.7:   Wet
Hamel	   B/D   	  0.0-2.6:   Moist  2.6-6.7:	  0.0-3.3:   Moist  3.3-6.7:	  0.0-1.0:   Moist  1.0-6.7:	  0.0-0.5:   Moist  0.5-6.7:	  0.0-0.7:   Moist  0.7-6.7:	  0.0-1.0:   Moist  1.0-6.7:	  0.0-2.6:   Moist  2.6-6.7:	  0.0-3.3:   Moist  3.3-6.7:	  0.0-2.6:   Moist  2.6-6.7:	  0.0-1.6:   Moist  1.6-6.7:	  0.0-1.0:   Moist  1.0-6.7:	  0.0-1.3:   Moist  1.3-6.7:
	<u> </u>	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Terril	   B 	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-4.6:   Moist	  0.0-3.6:   Moist	  0.0-3.9:   Moist	  0.0-4.6:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-5.9:   Moist	  0.0-4.6:   Moist	  0.0-5.2:   Moist
	 	 	 	4.6-6.7:   Wet	3.6-6.7:   Wet	3.9-6.7:   Wet	4.6-6.7:   Wet			j	5.9-6.7:   Wet	4.6-6.7:   Wet	5.2-6.7:   Wet
Glencoe	   B/D 	  0.0-1.5:   Moist	  0.0-2.0:   Moist	  0.0-6.7:   Wet	  0.0-6.7:   Wet	  0.0-0.5:   Moist	  0.0-1.0:   Moist	  0.0-1.5:   Moist	  0.0-2.0:   Moist	  0.0-1.5:   Moist	  0.0-1.0:   Moist	  0.0-1.0:   Moist	  0.0-1.0:   Moist
	 	1.5-6.7:   Wet	2.0-6.7:   Wet			0.5-6.7:   Wet	1.0-6.7:   Wet	1.5-6.7:   Wet	2.0-6.7:   Wet	1.5-6.7:   Wet	1.0-6.7:   Wet	1.0-6.7:   Wet	1.0-6.7:   Wet
L40B:	 	! [				 	 		 	 	 		 
Angus	в 	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-4.6:   Moist  4.6-6.7:	0.0-3.6:   Moist  3.6-6.7:	0.0-3.9:   Moist  3.9-6.7:	0.0-4.6:   Moist  4.6-6.7:	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist	0.0-5.9:   Moist  5.9-6.7:	0.0-4.6:   Moist  4.6-6.7:	0.0-5.2:   Moist  5.2-6.7:

	Hydro-  logic  group	January 	February	March 	April	May	June	July	August	September	October	November	Decembe
component name	group	L	1	I		1				1	1	1	<u> </u>
L40B:	l I	l I	I I	:	-	-	-	-		-	1	-	l I
Kilkenny	l l c	0.0-4.9:	0.0-6.7:	0.0-3.0:	0.0-1.7:	0.0-3.0:	0.0-4.4:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-5.2:	0.0-4.6:	0.0-4.6:
	i	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	4.9-6.7:		3.0-4.0:	1.7-2.5:	3.0-3.5:	4.4-6.7:				5.2-6.7:	4.6-6.7:	4.6-6.7:
	į	Wet	İ	Wet	Wet	Wet	Wet	i	i	i	Wet	Wet	Wet
	İ	i	j	4.0-4.4:	2.5-3.0:	3.5-3.9:	j	j	j	j	j	j	j
	İ	İ	İ	Moist	Moist	Moist	İ	i	İ	İ	i	i	İ
	ĺ			4.4-6.7:	3.0-6.7:	3.9-6.7:			i	j			j
	ļ			Wet	Wet	Wet	!						ļ
Lerdal	l I c	  0.0-3.0:	  0.0-4.9:	  0.0-3.0:	  0.0-1.7:	  0.0-3.0:	  0.0-1.8:	  0.0-3.0:	  0.0-4.9:	  0.0-3.9:	0.0-2.3:	  0.0-1.6:	0.0-2.0:
	i	Moist	Moist	Moist	Moist	Moist							
	į	3.0-6.7:	4.9-6.7:	3.0-4.0:	1.7-2.5:	3.0-3.5:	1.8-6.7:	3.0-6.7:	4.9-6.7:	3.9-6.7:	2.3-6.7:	1.6-6.7:	2.0-6.7:
	ĺ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
				4.0-4.4:	2.5-3.0:	3.5-3.9:							
				Moist	Moist	Moist				1			
				4.4-6.7:	3.0-6.7:	3.9-6.7:							
				Wet	Wet	Wet							
Mazaska	   C/D	  0.0-2.0:	0.0-2.6:	  0.0-0.8:	0.0-0.5:	0.0-0.5:	0.0-0.8:	0.0-2.0:	0.0-2.6:	0.0-2.0:	0.0-1.3:	0.0-0.7:	0.0-1.0:
	ĺ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	ĺ	2.0-6.7:	2.6-6.7:	0.8-6.7:	0.5-6.7:	0.5-6.7:	0.8-6.7:	2.0-6.7:	2.6-6.7:	2.0-6.7:	1.3-6.7:	0.7-6.7:	1.0-6.7:
	ļ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
L41C2:	l I	 		 						1			 
Lester, eroded	'   в	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
·	į	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
Kilkenny, eroded	l I c	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-2.5:	0.0-2.8:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	10.0-6.7:
	i	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	i	i	i	2.5-3.5:	2.8-4.0:	i	i	i	i	i	i	i
	į	İ	İ	İ	Wet	Wet	i	i	i	i	i	i	i
	İ	i	j	j	3.5-6.7:	4.0-6.7:	j	j	j	j	j	j	j
	ĺ			į	Moist	Moist	İ	į	İ	İ	į	į	
Terril	   B	  0.0-6.7:	  0.0-6.7:	  0.0-4.6:	0.0-3.6:	0.0-3.9:	0.0-4.6:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-5.9:	  0.0-4.6:	0.0-5.2:
	į	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	İ	i	j	4.6-6.7:	3.6-6.7:	3.9-6.7:	4.6-6.7:	j	j	j	5.9-6.7:	4.6-6.7:	5.2-6.7:
	ĺ			Wet	Wet	Wet	Wet	į	İ	İ	Wet	Wet	Wet
Derrynane	   C/D	  0.0-2.0:	  0.0-2.6:	  0.0-0.8:	0.0-0.5:	0.0-0.5:	0.0-0.8:	0.0-2.0:	  0.0-2.6:	0.0-2.0:	0.0-1.3:	  0.0-0.7:	0.0-1.0:
-	İ	Moist	Moist	Moist	Moist	Moist							
	İ	2.0-6.7:	2.6-6.7:	0.8-6.7:	0.5-6.7:	0.5-6.7:	0.8-6.7:	2.0-6.7:	2.6-6.7:	2.0-6.7:	1.3-6.7:	0.7-6.7:	1.0-6.7:
	i	Wet	Wet	Wet	Wet	Wet							

Table 17.--Soil Moisture Status by Depth--Continued

Table 17.--Soil Moisture Status by Depth--Continued

	Hydro-  logic  group	January   	February 	March	April 	May 	June 	July	August 	September	October	November	December
L41D2:	 	 					 	 			 		 
Lester, eroded	в 	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
Kilkenny, eroded	   c   	  0.0-6.7:   Moist   	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-2.5:   Moist   2.5-3.5:   Wet	0.0-2.8:   Moist   2.8-4.0:   Wet	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist 
		 		 	3.5-6.7:   Moist	4.0-6.7:   Moist			 	 		ļ	 
Terril	   B   	  0.0-6.7:   Moist   	0.0-6.7:   Moist 	  0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-3.6:   Moist   3.6-6.7:   Wet	0.0-3.9:   Moist   3.9-6.7:   Wet	0.0-4.6:   Moist   4.6-6.7:   Wet	  0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist 	  0.0-5.9:   Moist  5.9-6.7:   Wet	  0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-5.2:   Moist   5.2-6.7:   Wet
Derrynane	   C/D   	  0.0-2.0:   Moist  2.0-6.7:   Wet	  0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-0.8:   Moist  0.8-6.7:   Wet	  0.0-0.5:   Moist  0.5-6.7:   Wet	  0.0-0.5:   Moist  0.5-6.7:   Wet	  0.0-0.8:   Moist  0.8-6.7:   Wet	  0.0-2.0:   Moist  2.0-6.7:   Wet		  0.0-2.0:   Moist  2.0-6.7:   Wet	  0.0-1.3:   Moist  1.3-6.7:   Wet	  0.0-0.7:   Moist  0.7-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet
Ridgeton	   B 	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist
L41E:	 	 					 			1	 		
Lester	в 	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
Kilkenny	   c   	  0.0-6.7:   Moist   	0.0-6.7:   Moist 	  0.0-6.7:   Moist 	0.0-2.5:   Moist   2.5-3.5:   Wet	0.0-2.8:   Moist  2.8-4.0:   Wet	0.0-6.7:   Moist 	  0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist 	  0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist 
	 	 			3.5-6.7:   Moist	4.0-6.7:   Moist		 					
Terril	   B   	  0.0-6.7:   Moist   	  0.0-6.7:   Moist 	  0.0-4.6:   Moist  4.6-6.7:   Wet	  0.0-3.6:   Moist  3.6-6.7:   Wet	  0.0-3.9:   Moist  3.9-6.7:   Wet	  0.0-4.6:   Moist  4.6-6.7:   Wet	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-5.9:   Moist  5.9-6.7:   Wet	  0.0-4.6:   Moist  4.6-6.7:   Wet	  0.0-5.2:   Moist  5.2-6.7:   Wet
Derrynane	   C/D     	  0.0-2.0:   Moist  2.0-6.7:   Wet	  0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-0.8:   Moist  0.8-6.7:   Wet	  0.0-0.5:   Moist  0.5-6.7:   Wet	  0.0-0.5:   Moist  0.5-6.7:   Wet	  0.0-0.8:   Moist  0.8-6.7:   Wet	  0.0-2.0:   Moist  2.0-6.7:   Wet	  0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-2.0:   Moist  2.0-6.7:   Wet	  0.0-1.3:   Moist  1.3-6.7:   Wet	  0.0-0.7:   Moist  0.7-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet
Ridgeton	   B 	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist

Map symbol	Hydro-	January	February	March	April	May	June	July	August	September	October	November	December
and	logic	!	!	ļ	!	!	ļ	!	ļ	!	!	!	ļ.
component name	group	<u> </u>		<u> </u>	<u> </u>						<u> </u>		<u> </u>
L48A:	l I	 	I			l I			l I	l I			l i
Derrynane,	1	l I	1	1	1	1		1		-			1
overwash	·l c/p	  0.0-3.6:	0.0-4.3:	0.0-2.5:	0.0-1.5:	0.0-2.0:	0.0-2.5:	10.0-3.6:	0.0-4.5:	0.0-3.6:	0.0-2.6:	0.0-2.0:	10.0-3.0:
Over wasii	1	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	1	3.6-6.7:	4.3-6.7:	2.5-6.7:	11.5-6.7:	2.0-6.7:	2.5-6.7:	3.6-6.7:	4.5-6.7:	3.6-6.7:	2.6-6.7:	2.0-6.7:	3.0-6.7:
	1	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	1	1	100	1	1100	100	100	100	100	1100	"00	1100	1
Derrynane	· C/D	0.0-2.0:	0.0-2.6:	0.0-0.8:	0.0-0.5:	0.0-0.5:	0.0-0.8:	0.0-2.0:	0.0-2.6:	0.0-2.0:	0.0-1.3:	0.0-0.7:	0.0-1.0:
• •	i	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	2.0-6.7:	2.6-6.7:	0.8-6.7:	0.5-6.7:	0.5-6.7:	0.8-6.7:	2.0-6.7:	2.6-6.7:	2.0-6.7:	1.3-6.7:	0.7-6.7:	1.0-6.7:
	i	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	i	İ	i	i	i	i	i	i	i	i	i	i	i
Glencoe	B/D	0.0-1.5:	0.0-2.0:	0.0-5.0:	0.0-5.0:	0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
	i	Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	1.5-5.0:	2.0-5.0:	i	i	0.5-5.0:	1.0-5.0:	1.5-5.0:	2.0-5.0:	1.5-5.0:	1.0-5.0:	1.0-5.0:	1.0-5.0:
	i	Wet	Wet	İ	i	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	i	İ	i	i	i	i	İ	i	i	i	İ	i	i
Terril	. В	0.0-6.7:	0.0-6.7:	0.0-4.6:	0.0-3.6:	0.0-3.9:	0.0-4.6:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-5.9:	0.0-4.6:	0.0-5.2:
	İ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	İ	i	i	4.6-6.7:	3.6-6.7:	3.9-6.7:	4.6-6.7:	i	i		5.9-6.7:	4.6-6.7:	5.2-6.7:
	İ	İ	İ	Wet	Wet	Wet	Wet	j	ĺ	j	Wet	Wet	Wet
				[	Ţ	ļ	1	1	ļ		1	1	ļ
L49A:				1	1		ļ	ļ	ļ			1	!
Klossner,				1	1		ļ	ļ	ļ			1	!
surface drained	l A/D	0.0-1.0:	0.0-1.5:	0.0-1.0:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-0.5:	0.0-1.0:	0.0-1.0:	0.0-0.5:	0.0-0.5:	0.0-0.5:
	!	Moist	Moist	Moist	Wet	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist
	!	1.0-6.7:	1.5-6.7:	1.0-6.7:		!	ļ	0.5-6.7:	1.0-6.7:	1.0-6.7:	0.5-6.7:	0.5-6.7:	0.5-6.7:
	!	Wet	Wet	Wet	ļ	ļ	!	Wet	Wet	Wet	Wet	Wet	Wet
	!				ļ	ļ	ļ	!	ļ	ļ	ļ		ļ
Klossner, drained			  0.0-2.0:				  0.0-1.0:				0.0-1.0:		  0.0-1.0:
drained	· A/D	0.0-1.5:   Moist	0.0-2.0:   Moist	0.0-6.7:	0.0-6.7:	0.0-0.5:   Moist	0.0-1.0:   Moist	0.0-1.5:   Moist	0.0-2.0:   Moist	0.0-1.5:   Moist	0.0-1.0:   Moist	0.0-1.0:   Moist	0.0-1.0:   Moist
	!		Moist  2.0-6.7:	Wet	Wet			Moist  1.5-6.7:					
	!	1.5-6.7:   Wet	2.0-6.7:   Wet			0.5-6.7:   Wet	1.0-6.7:   Wet	1.5-6./:   Wet	2.0-6.7:   Wet	1.5-6.7:   Wet	1.0-6.7:   Wet	1.0-6.7:	1.0-6.7:   Wet
	!	wet	wet	1	1	wet	wet	wet	wet	wet	wet	Wet	wet
Mineral soil,		I I	I	1	I I		I I			I I	I I	I I	1
drained	   B/D	0.0-1.5:	  0.0-2.0:	0.0-6.7:	0.0-6.7:	  0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
aramed	ע/פן	Moist	0.0-2.0:   Moist	Wet	Wet	Moist	Moist	Moist	0.0-2.0:   Moist	0.0-1.5:   Moist	Moist	Moist	Moist
	1	1.5-6.7:	2.0-6.7:	wet	wet	0.5-6.7:	11.0-6.7:	11.5-6.7:	2.0-6.7:	11.5-6.7:	11.0-6.7:	11.0-6.7:	1.0-6.7:
	1	Wet	Wet			Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	1	WEL	Wet	1	1	wet	wet	wet	wet	wet	Wet	wet	Wet

Table 17.--Soil Moisture Status by Depth--Continued

Table 17.--Soil Moisture Status by Depth--Continued

	Hydro-  logic  group	January	February	March	April 	May   	June	July	August 	September	October 	November	December
component name	group	<u> </u>			1		<u> </u>	1	1	<u> </u>		<u> </u>	<u> </u>
L50A: Houghton,	   	   	   	   	   	   	   	   	   	   	   	   	   
surface drained	A/D       	0.0-1.0:   Moist  1.0-6.7:   Wet	Moist	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-6.7:   Wet   	0.0-6.7:   Wet   	0.0-6.7:   Wet   	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-0.5:   Moist  0.5-6.7:   Wet
Muskego, surface	İ	! 	i	i	i	İ	i	i	i	i		i	
drained	A/D       	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-5.0:   Wet 	0.0-5.0:   Wet 	0.0-5.0:   Wet 	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet
Klossner,	<u> </u>	 	i	 	i			i		i		i	
drained	İ	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-6.7:   Wet 	0.0-6.7:   Wet 	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet
Mineral soil,	 	 		 	 	 	l I	 	 	 	 	 	 
drained	   B/D     	  0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-6.7:   Wet 	0.0-6.7:   Wet 	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet
L51C2:	 	 	1	 	i i	 	 	-	 		 	i i	 
Gladek, eroded	B 	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
Barrington	   B     	  0.0-4.9:   Moist  4.9-5.0:   Wet	0.0-5.0:   Moist 	0.0-3.0:   Moist   3.0-5.0:   Wet	0.0-2.5:   Moist   2.5-5.0:   Wet	  0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.0:   Moist   4.6-5.0:   Wet	0.0-4.9:   Moist  4.9-5.0:   Wet	0.0-5.0:   Moist 	0.0-4.9:   Moist  4.9-5.0:   Wet	0.0-3.9:   Moist   3.9-5.0:   Wet	0.0-3.0:   Moist   3.0-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet
Lester, eroded	   B 	  0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
Madelia	   B/D     	  0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.3:   Moist   3.3-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	  0.0-0.5:   Moist  0.5-5.0:   Wet	  0.0-0.7:   Moist  0.7-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-2.6:   Moist   2.6-5.0:   Wet	  0.0-3.3:   Moist  3.3-5.0:   Wet	  0.0-2.6:   Moist  2.6-5.0:   Wet	  0.0-1.6:   Moist  1.6-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	  0.0-1.3:   Moist  1.3-5.0:   Wet

Map symbol and component name	  Hydro-  logic  group	   January   	   February   	   March   	   April   	   May 	   June 	   July 	   August 	  September   	October   	   November   	Decembe:   
		1			1	1	1	1	1	1	1	1	
L56A: Muskego, frequently	   	   		   	   			 			 		 
flooded	     	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-5.0:   Wet 	0.0-5.0:   Wet 	0.0-5.0:   Wet 	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet
Klossner, frequently	 	 	į Į	i 	<u> </u> 	İ	İ	į Į	į Į	<u> </u> 	į Į	İ	<u> </u> 
flooded	   D     	  0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet	  0.0-6.7:   Wet 	0.0-6.7:   Wet 	0.0-6.7:   Wet 	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-0.5:   Moist  0.5-6.7:   Wet
Suckercreek, frequently	   	   					   	   			   		
flooded	D     	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-1.8:   Moist  1.8-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-6.7:   Wet 	0.0-6.7:   Wet 	0.0-6.7:   Wet 	0.0-0.8:   Moist  0.8-6.7:   Wet	0.0-1.2:   Moist  1.2-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-0.7:   Moist  0.7-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet
L57A:		 		 			 	1	-		 		
Medo, drained	   A/D     	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-6.7:   Wet 	0.0-6.7:   Wet 	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet
Mineral soil,	i		i		i	İ		i	i	i	i	i	i
drained	B/D     	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-6.7:   Wet 	0.0-6.7:   Wet 	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet
Houghton,		 		 	 	 	 	 			 	 	
drained	A/D   	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-6.7:   Wet 	0.0-6.7:   Wet 	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet
L63A:				1	1		1				1		
Klossner	   A/D     	  0.0-1.5:   Moist  1.5-6.7:   Wet 	0.0-2.0:   Moist   2.0-6.7:   Wet	  0.0-6.7:   Wet   	  0.0-6.7:   Wet   	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-0.7:   Moist  0.7-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-1.5:   Moist   1.5-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-0.5:   Moist   0.5-6.7:   Wet	  0.0-0.8:   Moist  0.8-6.7:   Wet

Table 17.--Soil Moisture Status by Depth--Continued

Table 17.--Soil Moisture Status by Depth--Continued

and	Hydro-	January 	February	March	April	May	June	July	August	September	October	November	December
component name	group	l	1		1	1	1	1	1	1		1	
L63A:	 	 		 				-	-		 		
Lura	C/D	0.0-1.5:	0.0-2.0:	0.0-6.0:	0.0-6.0:	0.0-0.5:	0.0-0.7:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-0.5:	0.0-0.8:
	İ	Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.5-6.0:	2.0-6.0:			0.5-6.0:	0.7-6.0:	1.5-6.0:	2.0-6.0:	1.5-6.0:	1.0-6.0:	0.5-6.0:	0.8-6.0:
	ļ	Wet	Wet			Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Brownton	l   C/D	  0.0-2.0:	  0.0-2.6:	  0.0-0.8:	  0.0-0.5:	  0.0-0.5:	0.0-0.8:	  0.0-2.0:	  0.0-2.6:	0.0-2.0:	  0.0-1.3:	0.0-0.7:	0.0-1.0:
	İ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	į	2.0-5.0:	2.6-5.0:	0.8-5.0:	0.5-5.0:	0.5-5.0:	0.8-5.0:	2.0-5.0:	2.6-5.0:	2.0-5.0:	1.3-5.0:	0.7-5.0:	1.0-5.0:
	ĺ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
L64A:	 	 		 			 		1		 		
Tadkee	B/D	0.0-2.6:	0.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.6-6.7:	3.3-6.7:	1.0-6.7:	0.5-6.7:	0.7-6.7:	1.0-6.7:	2.6-6.7:	3.3-6.7:	2.6-6.7:	1.6-6.7:	1.0-6.7:	1.3-6.7:
	 	Wet 	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Tadkee,	i	<u> </u>		<u> </u>				i	i				i
depressional	B/D	0.0-1.5:	1	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
		Moist	Moist	Wet	Wet	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist
		1.5-6.7:   Wet	2.0-6.7:   Wet					1.5-6.7:   Wet	2.0-6.7: Wet	1.5-6.7:   Wet	1.0-6.7:   Wet	1.0-6.7:   Wet	1.0-6.7:   Wet
	! 	wet 	wet	 	 		 	wet	wet	wet	wet 	wet	wet
Better drained	į	İ	i	į	İ	İ	İ	i	i	j	į	i	i
soil	В	0.0-4.9:	0.0-6.7:	0.0-3.0:	0.0-2.5:	0.0-2.6:	0.0-3.0:	0.0-4.9:	0.0-6.7:	0.0-4.9:	0.0-3.9:	0.0-3.0:	0.0-3.3:
	!	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		4.9-6.7:		3.0-6.7:	2.5-6.7:	2.6-6.7:	4.6-6.7:	4.9-6.7:		4.9-6.7:	3.9-6.7:	3.0-6.7:	3.3-6.7:
	 	Wet 		Wet 	Wet 	Wet 	Wet 	Wet	1	Wet	Wet 	Wet 	Wet
Granby	A/D	0.0-1.1:	0.0-1.5:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-1.5:	0.0-1.8:	0.0-1.5:	0.0-0.5:	0.0-1.0:	0.0-0.8:
		Moist	Moist	Wet	Wet	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist
		1.1-5.0:	1.5-5.0:					1.5-5.0:	1.8-5.0:	1.5-5.0:	0.5-5.0:	1.0-5.0:	0.8-5.0:
	l I	Wet 	Wet	 				Wet	Wet	Wet	Wet	Wet	Wet
Less sandy soil	B/D	0.0-2.6:	0.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.6-6.7:	•	1.0-6.7:	0.5-6.7:	0.7-6.7:	1.0-6.7:	2.6-6.7:	3.3-6.7:	2.6-6.7:	1.6-6.7:	1.0-6.7:	1.3-6.7:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
L73A:													
Blue Earth	B/D	0.0-1.5:	•	0.0-6.7:	0.0-6.7:	0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
		Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	!	1.5-6.7:	2.0-6.7:			0.5-6.7:	1.0-6.7:	1.5-6.7:	2.0-6.7:	1.5-6.7:	1.0-6.7:	1.0-6.7:	1.0-6.7:
		Wet	Wet			Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet

	Hydro-  logic  group	January	February	March	April 	May 	June	July	August	September	October	November	December
- Compositorio riame	 	I	1	1	1	1	1	1	1	1	<u> </u>		1
L73A:	i	İ	i	i	i	i	i	i	i	i	i	i	i
Belleville	B/D	0.0-1.3:	0.0-1.6:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-1.6:	0.0-2.0:	0.0-1.6:	0.0-1.3:	0.0-1.0:	0.0-1.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.3-6.7:	1.6-6.7:	1.0-6.7:	0.5-6.7:	0.7-6.7:	1.0-6.7:	1.6-6.7:	2.0-6.7:	1.6-6.7:	1.3-6.7:	1.0-6.7:	1.3-6.7:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Canisteo	l l B/D	  0.0-2.6:	10.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	  0.0-1.0:	  0.0-2.6:	0.0-3.3:	0.0-2.6:	  0.0-1.6:	  0.0-1.0:	0.0-1.3:
	-/-	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	2.6-6.7:	3.3-6.7:	1.0-6.7:	0.5-6.7:	0.7-6.7:	2.0-6.7:	2.6-6.7:	3.3-6.7:	2.6-6.7:	1.6-6.7:	1.0-6.7:	1.3-6.7:
	į	Wet	Wet	Wet	Wet	Wet							
L74A:		 											
Estherville	I   в	  0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:
2501101 11110	i -	Moist	Moist										
	ĺ		İ	İ	İ	İ	İ	İ	į	İ	į	İ	
Hawick	A	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
	 	Moist 	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
Biscay	B/D	0.0-1.3:	0.0-1.6:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-1.6:	0.0-2.0:	0.0-1.6:	0.0-1.3:	0.0-1.0:	0.0-1.3:
	ĺ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.3-5.0:	1.6-5.0:	1.0-5.0:	0.5-5.0:	0.7-5.0:	1.0-5.0:	1.6-5.0:	2.0-5.0:	1.6-5.0:	1.3-5.0:	1.0-5.0:	1.3-5.0:
		Wet	Wet										
L75B:	! 	! 											
Barrington	В	0.0-4.9:	0.0-5.0:	0.0-3.0:	0.0-2.5:	0.0-2.6:	0.0-3.0:	0.0-4.9:	0.0-5.0:	0.0-4.9:	0.0-3.9:	0.0-3.0:	0.0-3.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		4.9-5.0:		3.0-5.0:	2.5-5.0:	2.6-5.0:	4.6-5.0:	4.9-5.0:		4.9-5.0:	3.9-5.0:	3.0-5.0:	3.3-5.0:
	 	Wet 		Wet	Wet	Wet	Wet	Wet		Wet	Wet	Wet	Wet
Gladek	I   В	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
	į	Moist	Moist										
Madelia	   B/D	  0.0-2.6:	  0.0-3.3:	  0.0-1.0:	  0.0-0.5:	0.0-0.7:	  0.0-1.0:	  0.0-2.6:	  0.0-3.3:	  0.0-2.6:	  0.0-1.6:	  0.0-1.0:	
Madella	D/D	Moist	Moist										
		2.6-5.0:	3.3-5.0:	1.0-5.0:	0.5-5.0:	0.7-5.0:	1.0-5.0:	2.6-5.0:	3.3-5.0:	2.6-5.0:	11.6-5.0:	1.0-5.0:	11.3-5.0:
	į	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
L76B:		 											
Dickinson	I   в	  0.0-5.0:	  0.0-5.0:	0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	0.0-5.0:	  0.0-5.0:	1 0.0-5.0:
	i -	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
********													
Litchfield	B 	0.0-2.0:   Moist	0.0-2.6:   Moist	0.0-1.6:   Moist	0.0-1.3:   Moist	0.0-1.6:   Moist	0.0-2.3:   Moist	0.0-2.6:   Moist	0.0-3.0:   Moist	0.0-2.6:   Moist	0.0-2.0:   Moist	0.0-1.6:   Moist	0.0-2.0:   Moist
	I I	2.0-6.7:		1.6-6.7:	1.3-6.7:	1.6-6.7:	2.0-6.7:	2.6-6.7:	3.0-6.7:	2.6-6.7:	2.0-6.7:	1.6-6.7:	2.0-6.7:
		Wet	Wet										

Table 17.--Soil Moisture Status by Depth--Continued

Table 17.--Soil Moisture Status by Depth--Continued

	Hydro-  logic	January 	February	March 	April	May	June	July 	August	September	October	November	December
component name	group	l		L			1				L		
									ļ				
L76B: Darfur	   p/n	  0.0-1.3:	  0.0-1.6:	  0.0-1.0:	  0.0-0.5:	  0.0-0.7:	0.0-1.0:	  0.0-1.6:	0.0-2.0:	  0.0-1.6:	0.0-1.3:	0.0-1.0:	0.0-1.3:
Dallul	<i>B/D</i> 	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i i	1.3-5.0:		1.0-5.0:	0.0-5.0:	0.7-5.0:	11.0-5.0:	1.6-5.0:	2.0-5.0:	11.6-5.0:	1.3-5.0:	1.0-5.0:	11.3-5.0:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Clarion	   B	  0.0-5.0:	  0.0-5.0:	  0.0-4.6:	0.0-3.6:	0.0-3.9:	  0.0-4.6:	  0.0-5.0:	  0.0-5.0:	0.0-5.0:	  0.0-5.0:	  0.0-4.6:	0.0-5.0:
	ĺ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
				4.6-5.0:	3.6-5.0:	3.9-5.0:	4.6-5.0:					4.6-5.0:	
	 	 		Wet 	Wet	Wet	Wet					Wet	
L77A:			į	į	į	į	į	į		į	į	į	į
Brownton	C/D	0.0-2.0:	1	0.0-0.8:	0.0-0.5:	0.0-0.5:	0.0-0.8:	0.0-2.0:	0.0-2.6:	0.0-2.0:	0.0-1.3:		0.0-1.0:
		Moist  2.0-5.0:	Moist  2.6-5.0:	Moist	Moist  0.5-5.0:	Moist	Moist  0.8-5.0:	Moist  2.0-5.0:	Moist	Moist  2.0-5.0:	Moist	Moist  0.7-5.0:	Moist
	l I	2.0-5.0:   Wet	2.6-5.0:   Wet	0.8-5.0:   Wet	Wet	0.5-5.0:   Wet	Wet	2.0-5.0:   Wet	2.6-5.0:   Wet	2.0-5.0:   Wet	1.3-5.0:   Wet	0.7-5.0:   Wet	1.0-5.0:   Wet
	! 	Wet 	wec	Wet	wec	wec	wec	wec	wec	wet	wet	Wet	Wet
Marna	C/D	0.0-2.0:	0.0-2.6:	0.0-0.8:	0.0-0.5:	0.0-0.5:	0.0-0.8:	0.0-2.0:	0.0-2.6:	0.0-2.0:	0.0-1.3:	0.0-0.7:	0.0-1.0:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.0-5.0:	2.6-5.0:	0.8-5.0:	0.5-5.0:	0.5-5.0:	0.8-5.0:	2.0-5.0:	2.6-5.0:	2.0-5.0:	1.3-5.0:	0.7-5.0:	1.0-5.0:
	 	Wet 	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Lura	C/D	0.0-1.5:	0.0-2.0:	0.0-6.0:	0.0-6.0:	0.0-0.5:	0.0-0.7:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-0.5:	0.0-0.8:
		Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.5-6.0:	2.0-6.0:	ļ		0.5-6.0:	0.7-6.0:	1.5-6.0:	2.0-6.0:	1.5-6.0:	1.0-6.0:	0.5-6.0:	0.8-6.0:
	 	Wet 	Wet	 		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
L78A:	İ		i								İ		
Canisteo	B/D	0.0-2.6:	0.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	ļ	2.6-6.7:	3.3-6.7:	1.0-6.7:	0.5-6.7:	0.7-6.7:	2.0-6.7:	2.6-6.7:	3.3-6.7:	2.6-6.7:	1.6-6.7:	1.0-6.7:	1.3-6.7:
	l I	Wet 	Wet	Wet 	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Crippin	в	0.0-3.9:	0.0-5.0:	0.0-2.0:	0.0-1.5:	0.0-1.6:	0.0-2.0:	0.0-3.9:	0.0-5.0:	0.0-3.9:	0.0-2.6:	0.0-2.0:	0.0-2.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		3.9-5.0:		2.0-5.0:	1.5-5.0:	1.6-5.0:	2.0-5.0:	3.9-5.0:		3.9-5.0:	2.6-5.0:	2.0-5.0:	2.3-5.0:
	 	Wet 		Wet	Wet	Wet	Wet	Wet		Wet	Wet	Wet	Wet
Glencoe	B/D	  0.0-1.5:	0.0-2.0:	  0.0-5.0:	0.0-5.0:	0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
		Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.5-5.0:	2.0-5.0:			0.5-5.0:	1.0-5.0:	1.5-5.0:	2.0-5.0:	1.5-5.0:	1.0-5.0:	1.0-5.0:	1.0-5.0:
		Wet	Wet			Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet

	Hydro-  logic  group	   January   	February 	March	April 	May 	June	July	August	September 	October 	November	Decembe
	!	ļ	!	!	!	!	ļ	!	-		ļ	!	!
L78A: Canisteo,			!	!			-	-	-	!		1	1
depressional	l IB/D	  0.0-1.5:	10.0-2.0:	0.0-5.0:	0.0-5.0:	  0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	  0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
depressionar	D/D	Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	1.5-5.0:	2.0-5.0:			0.5-5.0:	1.0-5.0:	1.5-5.0:	2.0-5.0:	1.5-5.0:	11.0-5.0:	1.0-5.0:	1.0-5.0:
	į	Wet	Wet	į	į	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Harps	   B/D	  0.0-2.6:	0.0-3.3:	  0.0-1.0:	  0.0-0.5:	  0.0-0.7:	  0.0-1.0:	  0.0-2.6:	  0.0-3.3:	0.0-2.6:	  0.0-1.6:	0.0-1.0:	0.0-1.3:
-	i	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Dry
	İ	2.6-5.0:	3.3-5.0:	1.0-5.0:	0.5-5.0:	0.7-5.0:	1.0-5.0:	2.6-5.0:	3.3-5.0:	2.6-5.0:	1.6-5.0:	1.0-5.0:	1.3-5.0:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Webster	   B/D	  0.0-2.6:		0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	  0.0-1.6:	0.0-1.0:	0.0-1.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.6-5.0:	•	1.0-5.0:	0.5-5.0:	0.7-5.0:	1.0-5.0:	2.6-5.0:	3.3-5.0:	2.6-5.0:	1.6-5.0:	1.0-5.0:	1.3-5.0:
	 	Wet 	Wet	Wet 	Wet	Wet 	Wet 	Wet 	Wet 	Wet	Wet 	Wet 	Wet 
L79B:	į	į		į	į	į	į	į	į	į	ļ	į	į
Clarion	В	0.0-5.0:	0.0-5.0:	0.0-4.6:	0.0-3.6:	0.0-3.9:	0.0-4.6:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-4.6:	0.0-5.0:
	ļ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	 	 		4.6-5.0:   Wet	3.6-5.0:   Wet	3.9-5.0:   Wet	4.6-5.0:   Wet					4.6-5.0:   Wet	
Clarion, eroded	   в	  0.0-5.0:	  0.0-5.0:	0.0-4.6:	  0.0-3.6:	  0.0-3.9:	0.0-4.6:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-4.6:	  0.0-5.0:
Clarion, eroded	<i>P</i>	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i			4.6-5.0:	3.6-5.0:	3.9-5.0:	4.6-5.0:					4.6-5.0:	
	į	į	į	Wet	Wet	Wet	Wet	į	į	į	į	Wet	į
Nicollet	   B	  0.0-3.9:	  0.0-5.0:	0.0-2.0:	  0.0-1.5:	  0.0-1.6:	0.0-2.0:	  0.0-3.9:	  0.0-5.0:	  0.0-3.9:	0.0-2.6:	0.0-2.0:	
	į	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		3.9-5.0:		2.0-5.0:	1.5-5.0:	1.6-5.0:	2.0-5.0:	3.9-5.0:		3.9-5.0:	2.6-5.0:	2.0-5.0:	2.3-5.0:
		Wet		Wet	Wet	Wet	Wet	Wet		Wet	Wet	Wet	Wet
Webster	B/D	0.0-2.6:	1	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	ļ	2.6-5.0:	3.3-5.0:	1.0-5.0:	0.5-5.0:	0.7-5.0:	1.0-5.0:	2.6-5.0:	3.3-5.0:	2.6-5.0:	1.6-5.0:	1.0-5.0:	1.3-5.0:
	 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 
L80C2:	į _	 		j	j	j	j	j	j		j	j	
Lester, eroded	B	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
	 	HOISC	MOISC	MOISC									
Terril	В	0.0-6.7:	0.0-6.7:	0.0-4.6:	0.0-3.6:	0.0-3.9:	0.0-4.6:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-5.9:	0.0-4.6:	0.0-5.2:
	I	Moist 	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	I			4.6-6.7:   Wet	3.6-6.7:   Wet	3.9-6.7:   Wet	4.6-6.7:   Wet				5.9-6.7:   Wet	4.6-6.7:   Wet	5.2-6.7:   Wet
	1	I I	1	I MEC	Mer	WEL	Mer	-	!	!	1 4466	Mer	MEL

Table 17.--Soil Moisture Status by Depth--Continued

Table 17.--Soil Moisture Status by Depth--Continued

	Hydro-	January	February	March	April	May	June	July	August	September	October	November	Decembe
	logic												
component name	group	L	1	L	L		l			L	L		
. 0.0 00								ļ	ļ			ļ	
L80C2:	l l B/D	  0.0-2.6:	0.0-3.3:	0.0-1.0:	  0.0-0.5:	  0.0-0.7:	0.0-1.0:	  0.0-2.6:	1 0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
namer	ע/ם ן ו	Moist	Moist										
	i	2.6-6.7:	3.3-6.7:	1.0-6.7:	0.5-6.7:	0.7-6.7:	11.0-6.7:	2.6-6.7:	3.3-6.7:	2.6-6.7:	11.6-6.7:	11.0-6.7:	1.3-6.7:
	i	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	i		i	İ	İ	i	i	i	i	i	i	i	i
Reedslake	В	0.0-6.7:	0.0-6.7:	0.0-4.6:	0.0-3.6:	0.0-3.9:	0.0-4.6:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-5.9:	0.0-4.6:	0.0-5.2:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
				4.6-6.7:	3.6-6.7:	3.9-6.7:	4.6-6.7:				5.9-6.7:	4.6-6.7:	5.2-6.7:
	ļ		ļ	Wet	Wet	Wet	Wet	ļ	ļ	ļ	Wet	Wet	Wet
Storden, eroded	l I B	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	10.0-6.7:
storden, eroded	<del>P</del> 	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	l morse	MOISC	MOISC	Moise	MOISC	MOISC	MOISC	MOISC	MOISC	MOISC	MOISC	MOISC
L80D2:	i		i	i	İ	i	i	i	i	i	i	i	i
Lester, eroded	В	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
	İ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		l	ļ	1	ļ	I	ļ	Ţ	ļ.	!	1	Ţ	
Ridgeton	В	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
Storden, eroded	   B	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	0.0-6.7:	  0.0-6.7:	0.0-6.7:
beorden, croded	-	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i		i	i	İ	i	i	i	i	İ	i	i	
Terril	в	0.0-4.9:	0.0-6.6:	0.0-3.0:	0.0-2.5:	0.0-2.6:	0.0-3.0:	0.0-4.9:	0.0-6.6:	0.0-4.9:	0.0-3.9:	0.0-3.0:	0.0-3.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		4.9-6.6:		3.0-6.6:	2.5-6.6:	2.6-6.6:	3.0-6.6:	4.9-6.6:		4.9-6.6:	3.9-6.6:	3.0-6.6:	3.3-6.6:
		Wet	!	Wet	Wet	Wet	Wet	Wet	ļ	Wet	Wet	Wet	Wet
Hamel	   B/D	  0.0-2.6:	  0.0-3.3:	  0.0-1.0:	  0.0-0.5:	  0.0-0.7:	0.0-1.0:	  0.0-2.6:	  0.0-3.3:	  0.0-2.6:	  0.0-1.6:	  0.0-1.0:	  0.0-1.3:
name1	ע/ם ן ו	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	l I	2.6-6.7:		1.0-6.7:	0.5-6.7:	0.7-6.7:	1.0-6.7:	2.6-6.7:	MOISC  3.3-6.7:	2.6-6.7:	1.6-6.7:	1.0-6.7:	1.3-6.7:
	i	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	i												
L81A:	i	İ	İ	i	İ	i	i	i	i	i	İ	i	i
Cordova	B/D	0.0-2.6:	0.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.6-6.7:	3.3-6.7:	1.0-6.7:	0.5-6.7:	0.7-6.7:	1.0-6.7:	2.6-6.7:	3.3-6.7:	2.6-6.7:	1.6-6.7:	1.0-6.7:	1.3-6.7:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
I o Cuoum	l I B	  0.0-3.9:	   0 0 E 0 -	  0.0-2.0:	  0.0-1.5:		10 0 2 0-	  0.0-3.9:	  0.0-5.9:	  0.0-3.9:	10006	  0.0-2.0:	
Le Sueur	l l R	0.0-3.9:   Moist	0.0-5.9:   Moist	0.0-2.0:   Moist	0.0-1.5:   Moist	0.0-1.6:   Moist	0.0-2.0:   Moist	0.0-3.9:   Moist	0.0-5.9:   Moist	0.0-3.9:   Moist	0.0-2.6:   Moist	0.0-2.0:   Moist	0.0-2.3:   Moist
		MOIST  3.9-6.7:	MOISE  5.9-6.7:	2.0-6.7:	1.5-6.7:	MOIST  1.6-6.7:	2.0-6.7:	MOIST	MOIST	MOIST  3.9-6.7:	2.6-6.7:	MOIST	2.3-6.7:
	I I	3.9-6.7:   Wet	5.9-6.7:	2.0-6.7:   Wet	Wet	Wet	2.0-6.7:   Wet	3.9-6./:   Wet	5.9-6.7:	3.9-6.7:   Wet	2.0-0.7:   Wet	2.0-6.7:   Wet	2.3-6./:   Wet

	  Hydro-  logic	   January 	February	March	April	May	June	July	August	September	October	November	Decembe
component name	group	i	¦	i	ł	i	i	i	ł	i	i	i	1
component name	l I	1	1	1	1	1	1	1	1	1	1	1	<u> </u>
L81A:	<u> </u>	i	i	i	i	i	i	i	i	i	i	i	i
Rolfe	C/D	0.0-1.5:	0.0-2.0:	0.0-5.0:	0.0-5.0:	0.0-0.5:	0.0-0.7:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-0.5:	0.0-0.8:
	į	Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	1.5-5.0:	2.0-5.0:	i	i	0.5-5.0:	0.7-5.0:	1.5-5.0:	2.0-5.0:	1.5-5.0:	1.0-5.0:	0.5-5.0:	0.8-5.0:
	į	Wet	Wet	İ	İ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
			1	1		1	1	1		1	1	1	
L82A:			1			ļ	ļ	İ		Ţ	1	ļ	
Marna	C/D	0.0-2.0:	0.0-2.6:	0.0-0.8:	0.0-0.5:	0.0-0.5:	0.0-0.8:	0.0-2.0:	0.0-2.6:	0.0-2.0:	0.0-1.3:	0.0-0.7:	0.0-1.0:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.0-5.0:	2.6-5.0:	0.8-5.0:	0.5-5.0:	0.5-5.0:	0.8-5.0:	2.0-5.0:	2.6-5.0:	2.0-5.0:	1.3-5.0:	0.7-5.0:	1.0-5.0:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Barbert	l l c/d	  0.0-1.5:	0.0-2.0:	0.0-5.0:	  0.0-5.0:	  0.0-0.5:	0.0-0.7:	  0.0-1.5:	  0.0-2.0:	0.0-1.5:	0.0-1.0:	  0.0-0.5:	0.0-0.8:
Daiber C	C/D	Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	! !	1.5-5.0:	2.0-5.0:			0.5-5.0:	0.7-5.0:	11.5-5.0:	2.0-5.0:	11.5-5.0:	11.0-5.0:	0.5-5.0:	0.8-5.0:
	¦	Wet	Wet	i	ł	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	<u> </u>			i			1100						
Guckeen	c	0.0-3.9:	0.0-5.6:	0.0-2.8:	0.0-2.5:	0.0-2.5:	0.0-2.8:	0.0-3.9:	0.0-5.6:	0.0-3.9:	0.0-3.0:	0.0-2.6:	0.0-2.8:
	İ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	ĺ	3.9-6.7:	5.6-6.7:	2.8-6.7:	2.5-6.7:	2.5-6.7:	2.8-6.7:	3.9-6.7:	5.6-6.7:	3.9-6.7:	3.0-6.7:	2.6-6.7:	2.8-6.7:
	ĺ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
		ļ	ļ	ļ	ļ	!	!	ļ	ļ		ļ	ļ	
L83A: Webster	l l B/D	  0.0-2.6:	0.0-3.3:	0.0-1.0:	  0.0-0.5:	0.0-0.7:	0.0-1.0:	  0.0-2.6:	  0.0-3.3:	0.0-2.6:	  0.0-1.6:	0.0-1.0:	0.0-1.3:
webster	ע/ם ן ו	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	 	2.6-5.0:	3.3-5.0:	1.0-5.0:	0.5-5.0:	0.7-5.0:	1.0-5.0:	2.6-5.0:	3.3-5.0:	2.6-5.0:	1.6-5.0:	1.0-5.0:	1.3-5.0:
	l I	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	l I	wec	wec	wec	wet	Wec	wec	Wet	Wet	wet	Wet	Wet	Wet
Glencoe	B/D	0.0-1.5:	0.0-2.0:	0.0-5.0:	0.0-5.0:	0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
	İ	Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	İ	1.5-5.0:	2.0-5.0:	j	i	0.5-5.0:	1.0-5.0:	1.5-5.0:	2.0-5.0:	1.5-5.0:	1.0-5.0:	1.0-5.0:	1.0-5.0:
	ĺ	Wet	Wet	İ	İ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
		ļ					1						
Canisteo	B/D	ļ	0.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
	!		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	!	0.0-2.6:	3.3-6.7:	1.0-6.7:	0.5-6.7:	0.7-6.7:	2.0-6.7:	2.6-6.7:	3.3-6.7:	2.6-6.7:	1.6-6.7:	1.0-6.7:	1.3-6.7:
	!	Moist	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	ļ	2.6-6.7:											
	I I	Wet	1	 	I I	I I	I I		I I	I	I	I I	
Nicollet	l I B	0.0-3.9:	  0.0-5.0:	0.0-2.0:	0.0-1.5:	0.0-1.6:	0.0-2.0:	0.0-3.9:	  0.0-5.0:	  0.0-3.9:	0.0-2.6:	0.0-2.0:	0.0-2.3:
	i -	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	3.9-5.0:		2.0-5.0:	1.5-5.0:	1.6-5.0:	2.0-5.0:	3.9-5.0:		3.9-5.0:	2.6-5.0:	2.0-5.0:	2.3-5.0:
	i	Wet	i	Wet	Wet	Wet	Wet	Wet	i	Wet	Wet	Wet	Wet

Table 17.--Soil Moisture Status by Depth--Continued

Table 17.--Soil Moisture Status by Depth--Continued

Map symbol and component name	  Hydro-  logic  group	   January   	   February 	March 	April	May   	June 	July 	August 	  September 	October   	November	December
L84A:	 	 											
Glencoe	   B/D     	  0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-5.0:   Wet 	0.0-5.0:   Wet 	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet
Very poorly	l I	! 		 		! 		İ			 		
drained muck	A/D     	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-5.0:   Wet 	0.0-5.0:   Wet 	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet
Canisteo	   B/D     	  0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-3.3:   Moist  3.3-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-0.5:   Moist   0.5-6.7:   Wet	  0.0-0.7:   Moist  0.7-6.7:   Wet	0.0-1.0:   Moist  2.0-6.7:   Wet	0.0-2.6:   Moist   2.6-6.7:   Wet	0.0-3.3:   Moist  3.3-6.7:   Wet	0.0-2.6:   Moist   2.6-6.7:   Wet	  0.0-1.6:   Moist  1.6-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.3:   Moist  1.3-6.7:   Wet
Harps	   B/D     	  0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.7:   Moist   0.7-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	  0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.3:   Dry  1.3-5.0:   Wet
L85A:	l I	 	 	 		 		-			 		
Nicollet	В   	0.0-3.9:   Moist  3.9-5.0:   Wet	0.0-5.0:   Moist 	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-3.9:   Moist  3.9-5.0:   Wet	0.0-5.0:   Moist 	0.0-3.9:   Moist  3.9-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-2.3:   Moist  2.3-5.0:   Wet
Clarion	   B   	  0.0-5.0:   Moist 	0.0-5.0:   Moist 	  0.0-4.6:   Moist  4.6-5.0:   Wet	0.0-3.6:   Moist  3.6-5.0:   Wet	  0.0-3.9:   Moist  3.9-5.0:   Wet	0.0-4.6:   Moist   4.6-5.0:   Wet	0.0-5.0:   Moist 	0.0-5.0:   Moist 	0.0-5.0:   Moist 	  0.0-5.0:   Moist 	  0.0-4.6:   Moist  4.6-5.0:   Wet	0.0-5.0:   Moist 
Webster	   B/D     	  0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist   0.5-5.0:   Wet	  0.0-0.7:   Moist  0.7-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-2.6:   Moist   2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	0.0-2.6:   Moist   2.6-5.0:   Wet	  0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.3:   Moist  1.3-5.0:   Wet
L86A:		 											
Madelia	B/D       	0.0-2.6:   Moist  2.6-5.0:   Wet	Moist	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.7:   Moist  0.7-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.3:   Moist  1.3-5.0:   Wet

	Hydro-  logic  group	January   	February   	March   	April 	May 	June 	July   	August   	September   	October   	November	December
L86A:	 	 		 			 	 	 				 
Okoboji	C/D	0.0-1.5:	0.0-2.0:	0.0-5.0:	0.0-5.0:	0.0-0.5:	0.0-0.7:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-0.5:	0.0-0.8:
		Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.3-5.0:	1.6-5.0:			0.5-5.0:	0.7-5.0:	1.5-5.0:	2.0-5.0:	1.5-5.0:	1.0-5.0:	0.5-5.0:	0.8-5.0:
		Wet	Wet			Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Spicer	   B/D	0.0-2.6:	0.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.6-5.0:	3.3-5.0:	1.0-5.0:	0.5-5.0:	0.7-5.0:	1.0-5.0:	2.6-5.0:	3.3-5.0:	2.6-5.0:	1.6-5.0:	1.0-5.0:	1.3-5.0:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Kingston	   B	  0.0-3.9:	0.0-5.0:	0.0-2.0:	0.0-1.5:	0.0-1.6:	0.0-2.0:	0.0-3.9:	0.0-5.0:	0.0-3.9:	0.0-2.6:	0.0-2.0:	0.0-2.3:
	İ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		3.9-5.0:		2.0-5.0:	1.5-5.0:	1.6-5.0:	2.0-5.0:	3.9-5.0:		3.9-5.0:	2.6-5.0:	2.0-5.0:	2.3-5.0:
		Wet		Wet	Wet	Wet	Wet	Wet		Wet	Wet	Wet	Wet
L87A:	 				İ	İ							i
Kingston	В	0.0-3.9:	0.0-5.0:	0.0-2.0:	0.0-1.5:	0.0-1.6:	0.0-2.0:	0.0-3.9:	0.0-5.0:	0.0-3.9:	0.0-2.6:	0.0-2.0:	0.0-2.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		3.9-5.0:		2.0-5.0:	1.5-5.0:	1.6-5.0:	2.0-5.0:	3.9-5.0:		3.9-5.0:	2.6-5.0:	2.0-5.0:	2.3-5.0:
	 	Wet 		Wet 	Wet 	Wet 	Wet 	Wet 		Wet 	Wet	Wet 	Wet 
Truman	В	0.0-5.0:	0.0-5.0:	0.0-4.6:	0.0-3.6:	0.0-3.9:	0.0-4.6:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-4.6:	0.0-5.0:
	ļ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		 		4.6-5.0:   Wet	3.6-5.0:   Wet	3.9-5.0:   Wet	4.6-5.0:   Wet					4.6-5.0:   Wet	 
Madelia	   B/D	  0.0-2.6:	  0.0-3.3:	  0.0-1.0:	  0.0-0.5:	  0.0-0.7:	  0.0-1.0:	  0.0-2.6:	  0.0-3.3:	  0.0-2.6:	  0.0-1.6:		  0.0-1.3:
Madella	ן ש/ט ו	0.0-2.0:   Moist	0.0-3.3:   Moist	Moist	Moist	0.0-0.7:   Moist	Moist	0.0-2.6:   Moist	0.0-3.3:   Moist	0.0-2.6:   Moist	Moist	0.0-1.0:   Moist	Moist
	l i	2.6-5.0:	3.3-5.0:	1.0-5.0:	0.5-5.0:	0.7-5.0:	1.0-5.0:	2.6-5.0:	3.3-5.0:	2.6-5.0:	1.6-5.0:	11.0-5.0:	1.3-5.0:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
L88A:	 	 		 	 								
Lura	C/D	0.0-1.5:	0.0-2.0:	0.0-6.0:	0.0-6.0:	0.0-0.5:	0.0-0.7:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-0.5:	0.0-0.8:
	İ	Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	İ	1.5-6.0:	2.0-6.0:	j	j	0.5-6.0:	0.7-6.0:	1.5-6.0:	2.0-6.0:	1.5-6.0:	1.0-6.0:	0.5-6.0:	0.8-6.0:
		Wet	Wet		ļ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Brownton	   C/D	  0.0-2.0:	0.0-2.6:	  0.0-0.8:	0.0-0.5:	0.0-0.5:	0.0-0.8:	0.0-2.0:	  0.0-2.6:	0.0-2.0:	0.0-1.3:	0.0-0.7:	0.0-1.0:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.0-5.0:	2.6-5.0:	0.8-5.0:	0.5-5.0:	0.5-5.0:	0.8-5.0:	2.0-5.0:	2.6-5.0:	2.0-5.0:	1.3-5.0:	0.7-5.0:	1.0-5.0:
	 	Wet 	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Organic soil	A/D	0.0-1.5:	0.0-2.0:	0.0-6.7:	0.0-6.7:	0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
		Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.5-6.7:	2.0-6.7:			0.5-6.7:	1.0-6.7:	1.5-6.7:	2.0-6.7:	1.5-6.7:	1.0-6.7:	1.0-6.7:	1.0-6.7:
		Wet	Wet	1		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet

Table 17.--Soil Moisture Status by Depth--Continued

Table 17.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro-  logic  group	January   	February	March	April	May 	June	July	August   	September	October	November	Decembe
L89A:	 	 		 	 				 	 	 		 
Guckeen	C     	0.0-3.0:   Moist  3.0-5.0:   Wet	0.0-4.9:   Moist  4.9-5.0:   Wet	0.0-1.8:   Moist  1.8-5.0:   Wet	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-1.8:   Moist  1.8-5.0:   Wet	0.0-3.0:   Moist  3.0-5.0:   Wet	0.0-4.9:   Moist  4.9-5.0:   Wet	0.0-3.0:   Moist  3.0-5.0:   Wet	0.0-2.3:   Moist  2.3-5.0:   Wet	0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet
Marna	   C/D     	  0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-0.8:   Moist  0.8-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.8:   Moist  0.8-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-1.3:   Moist  1.3-5.0:   Wet	0.0-0.7:   Moist  0.7-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet
Clarion clay	l I	l I	1	I I	}		1	1	-		 	I	
loam	   B     	0.0-5.0:   Moist 	0.0-5.0:   Moist 	0.0-4.6:   Moist  4.6-5.0:   Wet	0.0-3.6:   Moist  3.6-5.0:   Wet	0.0-3.9:   Moist  3.9-5.0:   Wet	0.0-4.6:   Moist  4.6-5.0:   Wet	0.0-5.0:   Moist 	0.0-5.0:   Moist 	0.0-5.0:   Moist 	0.0-5.0:   Moist 	0.0-4.6:   Moist  4.6-5.0:   Wet	0.0-5.0:   Moist 
L90A:	i i	! 	1	 					i	1			
Le Sueur	В   	0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-5.9:   Moist  5.9-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-1.6:   Moist  1.6-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-5.9:   Moist  5.9-6.7:   Wet	0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-2.3:   Moist  2.3-6.7:   Wet
Cordova	   B/D     	  0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-3.3:   Moist  3.3-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-0.5:   Moist   0.5-6.7:   Wet	0.0-0.7:   Moist  0.7-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-2.6:   Moist   2.6-6.7:   Wet	0.0-3.3:   Moist  3.3-6.7:   Wet	0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-1.6:   Moist  1.6-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.3:   Moist  1.3-6.7:   Wet
Reedslake	   B   	  0.0-6.7:   Moist 	0.0-6.7:   Moist 	  0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-3.6:   Moist   3.6-6.7:   Wet	0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist 	  0.0-5.9:   Moist  5.9-6.7:   Wet	0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-5.2:   Moist   5.2-6.7:   Wet
L91A:	 	 	1	 	1	1				1	 		
Mazaska	C/D     	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-0.8:   Moist  0.8-6.7:   Wet	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-0.8:   Moist  0.8-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-1.3:   Moist  1.3-6.7:   Wet	0.0-0.7:   Moist  0.7-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet
Lerdal	   C     	  0.0-3.0:   Moist  3.0-6.7:   Wet 	0.0-4.9:   Moist   4.9-6.7:   Wet 	0.0-3.0:   Moist   3.0-4.0:   Wet   4.0-4.4:	0.0-1.7:   Moist  1.7-2.5:   Wet  2.5-3.0:	0.0-3.0:   Moist   3.0-3.5:   Wet   3.5-3.9:	0.0-1.8:   Moist  1.8-6.7:   Wet 	0.0-3.0:   Moist   3.0-6.7:   Wet 	0.0-4.9:   Moist  4.9-6.7:   Wet 	0.0-3.9:   Moist  3.9-6.7:   Wet 	  0.0-2.3:   Moist  2.3-6.7:   Wet 	0.0-1.6:   Moist  1.6-6.7:   Wet 	0.0-2.0:   Moist  2.0-6.7:   Wet 
		 		Moist  4.4-6.7:   Wet	Moist  3.0-6.7:   Wet	Moist  3.9-6.7:   Wet							

Map symbol and component name	Hydro-  logic  group	January 	February 	March 	April 	May	June	July	August	September 	October 	November	December
L91A:	 												
Rolfe	C/D       	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-5.0:   Wet 	0.0-5.0:   Wet 	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.7:   Moist  0.7-5.0:   Wet	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.8:   Moist  0.8-5.0:   Wet
L92A:	l I	 	-	l I	1	 	 	-	I I	-	 	I I	 
Darfur	   B/D     	0.0-1.3:   Moist  1.3-5.0:   Wet	0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.7:   Moist  0.7-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-1.3:   Moist  1.3-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.3:   Moist  1.3-5.0:   Wet
Fieldon	   B/D     	0.0-1.3:   Moist  1.3-5.0:   Wet	Moist	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist  0.0-5.0:   Wet	0.0-0.7:   Moist  0.7-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	  0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-1.3:   Moist  1.3-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.3:   Moist  1.3-5.0:   Wet
Litchfield	   B   		  0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-1.6:   Moist  1.6-6.7:   Wet	  0.0-1.3:   Moist  1.3-6.7:   Wet	  0.0-1.6:   Moist  1.6-6.7:   Wet	  0.0-2.3:   Moist  2.0-6.7:   Wet	  0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-3.0:   Moist  3.0-6.7:   Wet	  0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-2.0:   Moist  2.0-6.7:   Wet	  0.0-1.6:   Moist  1.6-6.7:   Wet	  0.0-2.0:   Moist  2.0-6.7:   Wet
Webster	   B/D     	  0.0-2.6:   Moist  2.6-5.0:   Wet	  0.0-3.3:   Moist  3.3-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	  0.0-0.5:   Moist  0.5-5.0:   Wet	  0.0-0.7:   Moist  0.7-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	  0.0-2.6:   Moist  2.6-5.0:   Wet		  0.0-2.6:   Moist  2.6-5.0:   Wet	  0.0-1.6:   Moist  1.6-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	  0.0-1.3:   Moist  1.3-5.0:   Wet
Dassel	   B/D     	  0.0-1.1:   Moist  1.1-5.0:   Wet	  0.0-1.5:   Moist  1.5-5.0:   Wet	  0.0-5.0:   Wet 	  0.0-5.0:   Wet 	  0.0-0.5:   Moist  0.5-5.0:   Wet	  0.0-0.8:   Moist  0.8-5.0:   Wet	  0.0-1.5:   Moist  1.5-5.0:   Wet	  0.0-1.8:   Moist  1.8-5.0:   Wet	  0.0-1.5:   Moist  1.5-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	  0.0-0.8:   Moist  0.8-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet
L93A:													
Muskego	   A/D   	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-6.7:   Wet 	0.0-6.7:   Wet 	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet
Blue Earth	   B/D     	  0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	  0.0-6.7:   Wet 	0.0-6.7:   Wet 	  0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	  0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist   2.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist   1.0-6.7:   Wet
Mineral soil,	 	 	1	 							 		
drained	   B/D   	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-6.7:   Wet 	0.0-6.7:   Wet 	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet

Table 17.--Soil Moisture Status by Depth--Continued

Table 17.--Soil Moisture Status by Depth--Continued

and	Hydro-  logic  group	January	February	March	April 	May	June 	July 	August 	September	October	November	Decembe:
component name	  aromb	l		<u> </u>	1	1	1		1	1	<u> </u>		1
L93A:	<u> </u>	 	i							i		i	
Belleville	A/D	0.0-1.3:	0.0-1.6:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-1.6:	0.0-2.0:	0.0-1.6:	0.0-1.3:	0.0-1.0:	0.0-1.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.3-6.7:	1.6-6.7:	1.0-6.7:	0.0-6.7:	0.7-6.7:	1.0-6.7:	1.6-6.7:	2.0-6.7:	1.6-6.7:	1.3-6.7:	1.0-6.7:	1.3-6.7:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
L94A:	! 			 					 				
Lowlein	B	0.0-3.6:	0.0-3.9:	0.0-2.8:	0.0-2.5:	0.0-2.6:	0.0-3.0:	0.0-3.6:	0.0-3.9:	0.0-3.6:	0.0-3.3:	0.0-3.0:	0.0-3.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		3.6-6.7:	3.9-6.7:	2.8-6.7:	2.5-6.7:	2.6-6.7:	3.0-6.7:	3.6-6.7:	3.9-6.7:	3.6-6.7:	3.3-6.7:	3.0-6.7:	3.3-6.7:
	!	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Linder	l I B	  0.0-2.0:	  0.0-2.6:	  0.0-1.6:	  0.0-1.3:	  0.0-1.6:	1 0.0-2.0:	  0.0-2.6:	  0.0-3.0:	0.0-2.6:	0.0-2.0:	  0.0-1.6:	0.0-2.0:
	i	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	2.0-5.0:	2.6-5.0:	1.6-5.0:	1.3-5.0:	1.6-5.0:	2.0-5.0:	2.6-5.0:	3.0-5.0:	2.6-5.0:	2.0-5.0:	1.6-5.0:	2.0-5.0:
	į	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Dickinson	l I B	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	10.0-5.0:	  0.0-5.0:	10.0-5.0:
DIGHTIBON		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
Darfur	   B/D	  0.0-1.3:	  0.0-1.6:	0.0-1.0:	  0.0-0.5:	  0.0-0.7:	0.0-1.0:	  0.0-1.6:	  0.0-2.0:	0.0-1.6:	0.0-1.3:	0.0-1.0:	0.0-1.3:
	İ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	İ	1.3-5.0:	1.6-5.0:	1.0-5.0:	0.0-5.0:	0.7-5.0:	1.0-5.0:	1.6-5.0:	2.0-5.0:	1.6-5.0:	1.3-5.0:	1.0-5.0:	1.3-5.0:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
L95E:	 	 		 						1			
Hawick	A	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:
	į	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
Estherville	l I B	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	0.0-5.0:
	i -	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	İ		į	İ	İ	į	İ	į	į	İ	į	į	İ
Tomall	B	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-4.0:	0.0-4.0:	0.0-4.5:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
		Moist 	Moist	Moist 	Moist  4.0-6.7:	Moist  4.0-6.7:	Moist  4.5-6.7:	Moist	Moist	Moist	Moist	Moist	Moist
	 	 			4.0-6.7:   Wet	4.0-6.7:   Wet	4.5-6.7:   Wet						
	İ		İ	İ	İ	į	İ	İ	į	İ	į	į	İ
L96B:	! _												
Estherville	B	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:
	 	Moist 	Moist	Moist 	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
Hawick	   A	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
	I	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist

Map symbol and component name	Hydro-  logic  group	January   	February   	March   	April   	May 	June 	July   	August   	September   	October   	November   	Decembe
	ļ		ļ			!	!				ļ		
L96B: Tomall	   B 	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 		  0.0-4.0:   Moist  4.0-6.7:	  0.0-4.5:   Moist  4.5-6.7:	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 
	l I	 	 	 	Wet 	Wet 	Wet 	l I			 	 	
Biscay	   B/D     	0.0-1.3:   Moist  1.3-5.0:   Wet	0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist  0.0-5.0:   Wet	0.0-0.7:   Moist  0.7-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-1.3:   Moist  1.3-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.3:   Moist  1.3-5.0:   Wet
L97C:								1					
Hawick	   A 	  0.0-6.7:   Moist	  0.0-6.7:   Moist	0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist
Estherville	   B 	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist
Tomall	   B     	  0.0-6.7:   Moist   	0.0-6.7:   Moist 	  0.0-6.7:   Moist 	0.0-4.0:   Moist   4.0-6.7:   Wet	0.0-4.0:   Moist  4.0-6.7:   Wet	0.0-4.5:   Moist   4.5-6.7:   Wet	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist 	  0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist 
L98A:		! 	i		i	i	i	i	i	i		i	
Crippin	B     	0.0-3.9:   Moist  3.9-5.0:   Wet	0.0-5.0:   Moist 	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-3.9:   Moist  3.9-5.0:   Wet	0.0-5.0:   Moist 	0.0-3.9:   Moist  3.9-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-2.3:   Moist  2.3-5.0:   Wet
Nicollet	   B   	  0.0-3.9:   Moist  3.9-5.0:   Wet	0.0-5.0:   Moist 	  0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-1.5:   Moist  1.5-5.0:   Wet	  0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-2.0:   Moist   2.0-5.0:   Wet	0.0-3.9:   Moist  3.9-5.0:   Wet	  0.0-5.0:   Moist 	0.0-3.9:   Moist  3.9-5.0:   Wet	0.0-2.6:   Moist   2.6-5.0:   Wet	0.0-2.0:   Moist   2.0-5.0:   Wet	0.0-2.3:   Moist  2.3-5.0:   Wet
Canisteo	   B/D     	  0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-3.3:   Moist  3.3-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-0.5:   Moist   0.5-6.7:   Wet	  0.0-0.7:   Moist  0.7-6.7:   Wet	  0.0-1.0:   Moist  2.0-6.7:   Wet	  0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-3.3:   Moist  3.3-6.7:   Wet	  0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-1.6:   Moist  1.6-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet	  0.0-1.3:   Moist  1.3-6.7:   Wet
Clarion	   B   	  0.0-5.0:   Moist 	  0.0-5.0:   Moist 	  0.0-4.6:   Moist  4.6-5.0:   Wet	  0.0-3.6:   Moist  3.6-5.0:   Wet	  0.0-3.9:   Moist  3.9-5.0:   Wet	  0.0-4.6:   Moist  4.6-5.0:   Wet	  0.0-5.0:   Moist 	  0.0-5.0:   Moist 	  0.0-5.0:   Moist 	  0.0-5.0:   Moist 	  0.0-4.6:   Moist  4.6-5.0:   Wet	0.0-5.0:   Moist 

Table 17.--Soil Moisture Status by Depth--Continued

Table 17.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro-  logic  group	January   	February 	March 	April	May 	June	July	August	September 	October 	November	December
L99B:	 	 											
Clarion	   B 	  0.0-5.0:   Moist	Moist	0.0-4.6:   Moist	0.0-3.6:   Moist	0.0-3.9:   Moist	0.0-4.6:   Moist	0.0-5.0:   Moist	0.0-5.0:   Moist	0.0-5.0:   Moist	0.0-5.0:   Moist	0.0-4.6:   Moist	0.0-5.0:   Moist
	 	 		4.6-5.0:   Wet	3.6-5.0:   Wet	3.9-5.0:   Wet	4.6-5.0:   Wet					4.6-5.0:   Wet	
Swanlake	   B	  0.0-5.0:	  0.0-5.0:	  0.0-4.6:	0.0-3.6:	  0.0-3.9:	0.0-4.6:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-5.0:	  0.0-4.6:	0.0-5.0:
	   	Moist   	Moist 	Moist  4.6-5.0:   Wet	Moist  3.6-5.0:   Wet	Moist  3.9-5.0:   Wet	Moist  4.6-5.0:   Wet	Moist 	Moist 	Moist 	Moist 	Moist  4.6-5.0:   Wet	Moist 
Nicollet	   B	0.0-3.9:	0.0-5.0:	0.0-2.0:	0.0-1.5:	0.0-1.6:	0.0-2.0:	0.0-3.9:	0.0-5.0:	0.0-3.9:	0.0-2.6:	0.0-2.0:	0.0-2.3:
	   	Moist  3.9-5.0:   Wet	Moist 	Moist  2.0-5.0:   Wet	Moist  1.5-5.0:   Wet	Moist  1.6-5.0:   Wet	Moist  2.0-5.0:   Wet	Moist  3.9-5.0:   Wet	Moist   	Moist  3.9-5.0:   Wet	Moist  2.6-5.0:   Wet	Moist  2.0-5.0:   Wet	Moist  2.3-5.0:   Wet
Webster	   B/D	    0.0-2.6:	0.0-3.3:	  0.0-1.0:	0.0-0.5:	  0.0-0.7:	0.0-1.0:	  0.0-2.6:	0.0-3.3:	0.0-2.6:	  0.0-1.6:	  0.0-1.0:	0.0-1.3:
	 	Moist  2.6-5.0:	1	Moist  1.0-5.0:	Moist  0.5-5.0:	Moist  0.7-5.0:	Moist  1.0-5.0:	Moist  2.6-5.0:	Moist  3.3-5.0:	Moist  2.6-5.0:	Moist  1.6-5.0:	Moist  1.0-5.0:	Moist  1.3-5.0:
	 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 
L100B:	_												
Clarion	B	0.0-5.0: Moist	0.0-5.0:   Moist	0.0-4.6:   Moist	0.0-3.6:   Moist	0.0-3.9:   Moist	0.0-4.6:   Moist	0.0-5.0:   Moist	0.0-5.0:   Moist	0.0-5.0:   Moist	0.0-5.0:   Moist	0.0-4.6:   Moist	0.0-5.0:   Moist
	   	MOISE   	MOIST	Moist  4.6-5.0:   Wet	3.6-5.0:   Wet	3.9-5.0:   Wet	Moist  4.6-5.0:   Wet	MOIST	MOIST	MOIST 	moist 	Moist  4.6-5.0:   Wet	MOIST
Estherville	   B 	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist
Lowlein	   B	  0.0-3.6:	0.0-3.9:	0.0-2.8:	0.0-2.5:	0.0-2.6:	0.0-3.0:	0.0-3.6:	0.0-3.9:	0.0-3.6:	0.0-3.3:	0.0-3.0:	0.0-3.3:
		Moist  3.6-5.0:	Moist  3.9-5.0:	Moist  2.8-5.0:	Moist  2.5-5.0:	Moist  2.6-5.0:	Moist  3.0-5.0:	Moist  3.6-5.0:	Moist  3.9-5.0:	Moist  3.6-5.0:	Moist  3.3-5.0:	Moist  3.0-5.0:	Moist  3.3-5.0:
	   	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Nicollet	   B	  0.0-3.9:   Moist	  0.0-5.0:   Moist	  0.0-2.0:   Moist	  0.0-1.5:   Moist	  0.0-1.6:   Moist	  0.0-2.0:   Moist	  0.0-3.9:   Moist	0.0-5.0:	0.0-3.9:	  0.0-2.6:   Moist	  0.0-2.0:   Moist	0.0-2.3:   Moist
	     	MOIST  3.9-5.0:   Wet	Moist 	Moist  2.0-5.0:   Wet	Moist  1.5-5.0:   Wet	Moist  1.6-5.0:   Wet	Moist  2.0-5.0:   Wet	Moist  3.9-5.0:   Wet	Moist 	Moist  3.9-5.0:   Wet	Moist  2.6-5.0:   Wet	Moist  2.0-5.0:   Wet	Moist  2.3-5.0:   Wet
Swanlake	   B	0.0-5.0:	,	0.0-4.6:	0.0-3.6:	0.0-3.9:	0.0-4.6:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-4.6:	0.0-5.0:
	   	Moist   	Moist   	Moist  4.6-5.0:   Wet	Moist  3.6-5.0:   Wet	Moist  3.9-5.0:   Wet	Moist  4.6-5.0:   Wet	Moist 	Moist   	Moist 	Moist   	Moist  4.6-5.0:   Wet	Moist 

Map symbol and component name	  Hydro-  logic  group	   January 	February 	March 	April 	May	June 	July	August 	  September 	October	November	Decembe
L100B:													
Webster	   B/D     	  0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist   0.5-5.0:   Wet	  0.0-0.7:   Moist  0.7-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-2.6:   Moist   2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	  0.0-2.6:   Moist  2.6-5.0:   Wet	  0.0-1.6:   Moist  1.6-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.3:   Moist  1.3-5.0:   Wet
T 101G2 -													
L101C2: Omsrud, eroded	   B 	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist
Hawick	   A 	  0.0-6.7:   Moist	0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	0.0-6.7:   Moist	  0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	  0.0-6.7:   Moist
Storden, eroded	   B 	  0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
Delft	   B/D     	  0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.7:   Moist  0.7-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.3:   Moist  1.3-5.0:   Wet
Terril	   B     	  0.0-6.7:   Moist 	0.0-6.7:   Moist 	  0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-3.6:   Moist  3.6-6.7:   Wet	0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist 	  0.0-5.9:   Moist  5.9-6.7:   Wet	0.0-4.6:   Moist   4.6-6.7:   Wet	0.0-5.2:   Moist   5.2-6.7:   Wet
L101D2:	¦	! 	1			i	i	i	1	1		i	
Omsrud, eroded	   в 	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
Hawick	   A 	  0.0-6.7:   Moist 	0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
Storden, eroded	   B 	  0.0-6.7:   Moist 	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
Ridgeton	   B 	  0.0-6.7:   Moist 	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
Delft	   B/D     	  0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.7:   Moist  0.7-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.3:   Moist  1.3-5.0:   Wet
Terril	   B     	  0.0-4.9:   Moist  4.9-6.6:   Wet 	0.0-6.6:   Moist 	  0.0-3.0:   Moist  3.0-6.6:   Wet	  0.0-2.5:   Moist  2.5-6.6:   Wet	  0.0-2.6:   Moist  2.6-6.6:   Wet	0.0-3.0:   Moist   3.0-6.6:   Wet	  0.0-4.9:   Moist  4.9-6.6:   Wet	0.0-6.6:   Moist 	  0.0-4.9:   Moist  4.9-6.6:   Wet	  0.0-3.9:   Moist  3.9-6.6:   Wet	0.0-3.0:   Moist  3.0-6.6:   Wet	  0.0-3.3:   Moist  3.3-6.6:   Wet

Table 17.--Soil Moisture Status by Depth--Continued

Table 17.--Soil Moisture Status by Depth--Continued

and	  Hydro-  logic  group	   January   	February	   March 	April 	May	June	July	August	September	October	November	December
-	i	l	İ	i	i	i	i	İ	İ	İ	İ	i	İ
L102C2:	ĺ	ĺ	İ	İ	Ì	İ	İ	İ	j	İ	İ	İ	İ
Omsrud, eroded	B   	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
Storden, eroded	   B 	  0.0-6.7:   Moist	0.0-6.7:   Moist	  0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
Omsrud	   B 	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist
Terril	   B     	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-4.6:   Moist  4.6-6.7:   Wet	  0.0-3.6:   Moist  3.6-6.7:   Wet	  0.0-3.9:   Moist  3.9-6.7:   Wet	  0.0-4.6:   Moist  4.6-6.7:   Wet	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-5.9:   Moist  5.9-6.7:   Wet	  0.0-4.6:   Moist  4.6-6.7:   Wet	  0.0-5.2:   Moist  5.2-6.7:   Wet
Delft	   B/D     	  0.0-2.6:   Moist  2.6-5.0:   Wet	Moist	  0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist   0.5-5.0:   Wet	0.0-0.7:   Moist   0.7-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	  0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.3:   Moist  1.3-5.0:   Wet
L102D2:	 	l İ		 	l I	 	 	 		 	 		I
Omsrud, eroded	   B 	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
Storden, eroded	   B 	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist
Omsrud	   B 	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist
Ridgeton	   B 	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist
Delft	   B/D     	  0.0-2.6:   Moist  2.6-5.0:   Wet	Moist	  0.0-1.0:   Moist  1.0-5.0:   Wet	  0.0-0.5:   Moist  0.5-5.0:   Wet	  0.0-0.7:   Moist  0.7-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-2.6:   Moist   2.6-5.0:   Wet	0.0-3.3:   Moist   3.3-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	  0.0-1.6:   Moist  1.6-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	  0.0-1.3:   Moist  1.3-5.0:   Wet
Terril	   в   	  0.0-4.9:   Moist  4.9-6.6:   Wet	  0.0-6.6:   Moist 	  0.0-3.0:   Moist  3.0-6.6:   Wet	  0.0-2.5:   Moist  2.5-6.6:   Wet	0.0-2.6:   Moist   2.6-6.6:   Wet	0.0-3.0:   Moist  3.0-6.6:   Wet	  0.0-4.9:   Moist  4.9-6.6:   Wet	  0.0-6.6:   Moist 	0.0-4.9:   Moist  4.9-6.6:   Wet	  0.0-3.9:   Moist  3.9-6.6:   Wet	0.0-3.0:   Moist   3.0-6.6:   Wet	

Map symbol	Hydro-	January	February	March	April	May	June	July	August	September	October	November	December
and	logic	l											
component name	group	L											
	!	<u> </u>	ļ	İ	ļ	!	!	ļ	!	ļ	ļ	ļ	ļ
L103A:													
Fieldon	B/D	0.0-1.3:	0.0-1.6:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-1.6:	0.0-2.0:	0.0-1.6:	0.0-1.3:	0.0-1.0:	0.0-1.3:
		Moist  1.3-5.0:	Moist  1.6-5.0:	Moist  1.0-5.0:	Moist  0.0-5.0:	Moist  0.7-5.0:	Moist  1.0-5.0:	Moist  1.6-5.0:	Moist  2.0-5.0:	Moist  1.6-5.0:	Moist  1.3-5.0:	Moist  1.0-5.0:	Moist  1.3-5.0:
	i	1.3-3.0:   Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	i	1100 	"66	100	"66	""	1	"66	1100	1	1100	1100	1100
Canisteo	B/D	0.0-2.6:	0.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
	İ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	İ	2.6-6.7:	3.3-6.7:	1.0-6.7:	0.5-6.7:	0.7-6.7:	2.0-6.7:	2.6-6.7:	3.3-6.7:	2.6-6.7:	1.6-6.7:	1.0-6.7:	1.3-6.7:
	!	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Darfur	   B/D	  0.0-1.3:	  0.0-1.6:	0.0-1.0:	  0.0-0.5:	  0.0-0.7:	  0.0-1.0:	  0.0-1.6:	  0.0-2.0:	  0.0-1.6:	0.0-1.3:	0.0-1.0:	  0.0-1.3:
Darrur	Ι <i>Φ/ </i> Ι	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.3-5.0:	11.6-5.0:	1.0-5.0:	0.0-5.0:	0.7-5.0:	1.0-5.0:	11.6-5.0:	2.0-5.0:	11.6-5.0:	1.3-5.0:	1.0-5.0:	11.3-5.0:
	i	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	į	İ	İ	į	j	j	j	j	į	j	İ	İ	İ
Glencoe	B/D	0.0-1.5:	0.0-2.0:	0.0-5.0:	0.0-5.0:	0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
		Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	!	1.5-5.0:	2.0-5.0:	ļ	ļ	0.5-5.0:	1.0-5.0:	1.5-5.0:	2.0-5.0:	1.5-5.0:	1.0-5.0:	1.0-5.0:	1.0-5.0:
		Wet	Wet	!		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
L105C2:		l i			l i		ļ	ļ			1	I I	
Lester, eroded	I   в	  0.0-6.6:	0.0-6.6:	0.0-6.6:	0.0-6.6:	  0.0-6.6:	  0.0-6.6:	0.0-6.6:	  0.0-6.6:	0.0-6.6:	0.0-6.6:	0.0-6.6:	0.0-6.6:
202001, 020000	-	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	İ	i	i	İ	i	i	i	i	i	i	i	i
Hawick	A	0.0-6.6:	0.0-6.6:	0.0-6.6:	0.0-6.6:	0.0-6.6:	0.0-6.6:	0.0-6.6:	0.0-6.6:	0.0-6.6:	0.0-6.6:	0.0-6.6:	0.0-6.6:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	ļ						1						
Terril	В	0.0-6.7:	0.0-6.7:	0.0-4.6:	0.0-3.6:	0.0-3.9:	0.0-4.6:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-5.9:	0.0-4.6:	0.0-5.2:
		Moist 	Moist 	Moist  4.6-6.7:	Moist  3.6-6.7:	Moist  3.9-6.7:	Moist  4.6-6.7:	Moist	Moist	Moist 	Moist  5.9-6.7:	Moist  4.6-6.7:	Moist  5.2-6.7:
		 		Wet	Wet	Wet	Wet				Wet	Wet	Wet
	i	İ	i					i	i	i			
Hamel	B/D	0.0-2.6:	0.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
	İ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.6-6.6:	3.3-6.6:	1.0-6.6:	0.5-6.6:	0.7-6.6:	1.0-6.6:	2.6-6.6:	3.3-6.6:	2.6-6.6:	1.6-6.6:	1.0-6.6:	1.3-6.6:
	ļ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Storden, eroded	   B	  0.0-6.6:	  0.0-6.6:	0.0-6.6:	  0.0-6.6:	  0.0-6.6:	  0.0-6.6:	  0.0-6.6:	  0.0-6.6:	  0.0-6.6:	  0.0-6.6:	  0.0-6.6:	  0.0-6.6:
storden, eroded	P	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	ŀ	MOISC 	MOISC	I	I	I	MOISC	Moise	I	I	MOISC	Moise	MOISC
L105D2:	İ	<u> </u>	i	i	i	i	i	i	i	i	İ	i	i
Lester, eroded	В	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	!		ļ	ļ	ļ	ļ	ļ	ļ	İ	İ	!	ļ	
Hawick	A	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
	1	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist

Table 17.--Soil Moisture Status by Depth--Continued

Table 17.--Soil Moisture Status by Depth--Continued

	Hydro-  logic  group	January	February 	March   	April 	May   	June 	July   	August   	September   	October   	November	December
L105D2:													
Ridgeton	   B 	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	  0.0-6.7:   Moist
Hamel	   B/D     	  0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-3.3:   Moist  3.3-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet	  0.0-0.5:   Moist  0.5-6.7:   Wet	  0.0-0.7:   Moist  0.7-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet	  0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-3.3:   Moist   3.3-6.7:   Wet	  0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-1.6:   Moist  1.6-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet	  0.0-1.3:   Moist  1.3-6.7:   Wet
Storden, eroded	   B 	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist
Terril	   B   	  0.0-4.9:   Moist  4.9-6.6:   Wet	0.0-6.6:   Moist 	  0.0-3.0:   Moist  3.0-6.6:   Wet	0.0-2.5:   Moist  2.5-6.6:   Wet	0.0-2.6:   Moist  2.6-6.6:   Wet	0.0-3.0:   Moist   3.0-6.6:   Wet	  0.0-4.9:   Moist  4.9-6.6:   Wet	0.0-6.6:   Moist 	0.0-4.9:   Moist   4.9-6.6:   Wet	  0.0-3.9:   Moist  3.9-6.6:   Wet	0.0-3.0:   Moist  3.0-6.6:   Wet	0.0-3.3:   Moist   3.3-6.6:   Wet
L106C2:	 	 		 	 	1		 			 		 
Lester, eroded	в 	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
Storden, eroded	   B 	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist
Terril	   B     	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-3.6:	  0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-4.6:   Moist   4.6-6.7:   Wet	  0.0-6.7:   Moist 	0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-5.9:   Moist  5.9-6.7:   Wet	  0.0-4.6:   Moist  4.6-6.7:   Wet	  0.0-5.2:   Moist  5.2-6.7:   Wet
Hamel	   B/D     	  0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-3.3:   Moist  3.3-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-0.5:   Moist   0.5-6.7:   Wet	0.0-0.7:   Moist   0.7-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	  0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-3.3:   Moist  3.3-6.7:   Wet	0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-1.6:   Moist  1.6-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.3:   Moist  1.3-6.7:   Wet
Reedslake	   B   	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-4.6:   Moist  4.6-6.7:   Wet	  0.0-3.6:   Moist  3.6-6.7:   Wet	  0.0-3.9:   Moist  3.9-6.7:   Wet	  0.0-4.6:   Moist  4.6-6.7:   Wet	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-5.9:   Moist  5.9-6.7:   Wet	  0.0-4.6:   Moist  4.6-6.7:   Wet	  0.0-5.2:   Moist  5.2-6.7:   Wet
L106D2:	 	 		 							 		
Lester, eroded	   B 	  0.0-6.7:   Moist	0.0-6.7:   Moist	  0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
Storden, eroded	   B 	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist

Map symbol and component name	Hydro-  logic  group	January   	February   	March   	April   	May   	June   	July   	August   	September	October   	November 	December
-105-0	ļ				ļ	ļ			1	!			!
L106D2: Ridgeton	   B 	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist
	į			į			į					į	
Terril	В 	0.0-4.9:   Moist	0.0-6.6:   Moist	0.0-3.0:   Moist	0.0-2.5:   Moist	0.0-2.6:   Moist	0.0-3.0:   Moist	0.0-4.9:   Moist	0.0-6.6:   Moist	0.0-4.9:   Moist	0.0-3.9:   Moist	0.0-3.0:   Moist	0.0-3.3:   Moist
	į	4.9-6.6:		3.0-6.6:	2.5-6.6:	2.6-6.6:	3.0-6.6:	4.9-6.6:		4.9-6.6:	3.9-6.6:	3.0-6.6:	3.3-6.6:
	ļ	Wet		Wet	Wet	Wet	Wet	Wet		Wet	Wet	Wet	Wet
Hamel	   B/D	  0.0-2.6:	0.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
	ĺ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.6-6.7:   Wet	3.3-6.7:   Wet	1.0-6.7:   Wet	0.5-6.7:   Wet	0.7-6.7:   Wet	1.0-6.7:   Wet	2.6-6.7:   Wet	3.3-6.7:   Wet	2.6-6.7:   Wet	1.6-6.7:   Wet	1.0-6.7:   Wet	1.3-6.7:   Wet
	l İ	wet 	wet	wet	wet	wet	wet	wet	wet	wet	wet	wet	wet
L107A:	į	İ	į	į	į	į	į	į	į	į	į	į	į
Canisteo	B/D	0.0-2.6:   Moist	0.0-3.3:   Moist	0.0-1.0:   Moist	0.0-0.5:   Moist	0.0-0.7:   Moist	0.0-1.0:   Moist	0.0-2.6:   Moist	0.0-3.3:   Moist	0.0-2.6:   Moist	0.0-1.6:   Moist	0.0-1.0:   Moist	0.0-1.3:   Moist
	l I	MOIST  2.6-6.7:	MOIST	1.0-6.7:	0.5-6.7:	0.7-6.7:	2.0-6.7:	2.6-6.7:	MOIST  3.3-6.7:	2.6-6.7:	11.6-6.7:	11.0-6.7:	MOIST  1.3-6.7:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Glencoe	   B/D	  0.0-1.5:	0.0-2.0:	  0.0-5.0:	  0.0-5.0:	  0.0-0.5:	  0.0-1.0:	  0.0-1.5:	0.0-2.0:	  0.0-1.5:	0.0-1.0:	  0.0-1.0:	  0.0-1.0:
	j	Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	ļ	1.5-5.0:	2.0-5.0:			0.5-5.0:	1.0-5.0:	1.5-5.0:	2.0-5.0:	1.5-5.0:	1.0-5.0:	1.0-5.0:	1.0-5.0:
	l I	Wet 	Wet 	 		Wet 	Wet 	Wet 	Wet	Wet 	Wet	Wet 	Wet 
Harps	B/D	0.0-2.6:	0.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Dry
	 	2.6-5.0:   Wet	3.3-5.0:   Wet	1.0-5.0:   Wet	0.5-5.0:   Wet	0.7-5.0:   Wet	1.0-5.0:   Wet	2.6-5.0:   Wet	3.3-5.0:   Wet	2.6-5.0:   Wet	1.6-5.0:   Wet	1.0-5.0:   Wet	1.3-5.0:   Wet
Canisteo,	 	 											
depressional	B/D	0.0-1.5:	0.0-2.0:	0.0-5.0:	0.0-5.0:	0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
		Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.5-5.0:   Wet	2.0-5.0:   Wet			0.5-5.0:   Wet	1.0-5.0:   Wet	1.5-5.0:   Wet	2.0-5.0:   Wet	1.5-5.0:   Wet	1.0-5.0:   Wet	1.0-5.0:   Wet	1.0-5.0:   Wet
	¦	wec	wet			""	Wet	"ec	wet	wec	"ec	wec	Wet
Crippin	В	0.0-3.9:	0.0-5.0:	0.0-2.0:	0.0-1.5:	0.0-1.6:	0.0-2.0:	0.0-3.9:	0.0-5.0:	0.0-3.9:	0.0-2.6:	0.0-2.0:	0.0-2.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	 	3.9-5.0:   Wet		2.0-5.0:   Wet	1.5-5.0:   Wet	1.6-5.0:   Wet	2.0-5.0:   Wet	3.9-5.0:   Wet		3.9-5.0:   Wet	2.6-5.0:   Wet	2.0-5.0:   Wet	2.3-5.0:   Wet
	i		İ						i				
L108A:													
Cordova	B/D	0.0-2.6:   Moist	0.0-3.3:   Moist	0.0-1.0:   Moist	0.0-0.5:   Moist	0.0-0.7:   Moist	0.0-1.0:   Moist	0.0-2.6:   Moist	0.0-3.3:   Moist	0.0-2.6:   Moist	0.0-1.6:   Moist	0.0-1.0:   Moist	0.0-1.3:   Moist
	İ	2.6-6.7:	3.3-6.7:	1.0-6.7:	0.5-6.7:	0.7-6.7:	1.0-6.7:	2.6-6.7:	3.3-6.7:	2.6-6.7:	1.6-6.7:	1.0-6.7:	1.3-6.7:
	i	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet

Table 17.--Soil Moisture Status by Depth--Continued

Table 17.--Soil Moisture Status by Depth--Continued

	Hydro-	   January 	February	March	April	May	June	July	August	September	October	November	December
	group	i	i	i	i	i	i	i	1	i	i	i	
	l	İ	İ	İ	İ	l	İ	i		i	İ	İ	İ
L108A:	į	j	i	İ	į	İ	İ	i	İ	į	İ	i	į
Rolfe	C/D	0.0-1.5:	0.0-2.0:	0.0-5.0:	0.0-5.0:	0.0-0.5:	0.0-0.7:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-0.5:	0.0-0.8:
		Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.5-5.0:	2.0-5.0:			0.5-5.0:	0.7-5.0:	1.5-5.0:	2.0-5.0:	1.5-5.0:	1.0-5.0:	0.5-5.0:	0.8-5.0:
	ļ	Wet	Wet	İ	İ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Le Sueur	l I B	  0.0-3.9:	  0.0-5.9:	  0.0-2.0:	  0.0-1.5:	  0.0-1.6:	  0.0-2.0:	  0.0-3.9:	  0.0-5.9:	  0.0-3.9:	  0.0-2.6:	0.0-2.0:	10.0-2.3:
LC DUCUL	, -2 	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	! !	3.9-6.7:	5.9-6.7:	2.0-6.7:	11.5-6.7:	1.6-6.7:	2.0-6.7:	3.9-6.7:	5.9-6.7:	3.9-6.7:	2.6-6.7:	2.0-6.7:	2.3-6.7:
	! !	Wet	Wet	Wet	Wet	Wet	Wet						
	į	İ		İ			İ	i		i	İ	i	
L109A:	ļ .	ļ	İ	!	İ			İ	!	ļ.			İ
Marna	C/D	0.0-2.0:	1	0.0-0.8:	0.0-0.5:	0.0-0.5:	0.0-0.8:	0.0-2.0:	0.0-2.6:	0.0-2.0:	0.0-1.3:	0.0-0.7:	0.0-1.0:
	!	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	!	2.0-6.7:	2.6-6.7:	0.8-6.7:	0.5-6.7:	0.5-6.7:	0.8-6.7:	2.0-6.7:	2.6-6.7:	2.0-6.7:	1.3-6.7:	0.7-6.7:	1.0-6.7:
	 	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Barbert	   C/D	0.0-1.5:	0.0-2.0:	0.0-5.0:	0.0-5.0:	0.0-0.5:	0.0-0.7:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-0.5:	0.0-0.8:
	ĺ	Moist	Moist	Wet	Wet	Moist							
		1.5-5.0:	2.0-5.0:			0.5-5.0:	0.7-5.0:	1.5-5.0:	2.0-5.0:	1.5-5.0:	1.0-5.0:	0.5-5.0:	0.8-5.0:
	ļ	Wet	Wet			Wet							
Guckeen	l I c	  0.0-3.0:	  0.0-4.9:	  0.0-1.8:	  0.0-1.5:	  0.0-1.5:	0.0-1.8:	  0.0-3.0:	  0.0-4.9:	  0.0-3.0:	0.0-2.3:	  0.0-1.6:	0.0-2.0:
040110011	İ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	3.0-5.0:	4.9-5.0:	1.8-5.0:	1.5-5.0:	1.5-5.0:	1.8-5.0:	3.0-5.0:	4.9-5.0:	3.0-5.0:	2.3-5.0:	1.6-5.0:	2.0-5.0:
	į	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
L110E:													
Lester	l I B	  0.0-6.7:	  0.0-6.7:	0.0-6.7:	1 0.0-6.7:	10.0-6.7:	0.0-6.7:	1 0.0-6.7:	  0.0-6.7:	  0.0-6.7:	10.0-6.7:	10.0-6.7:	10.0-6.7:
Lebect	, - <u>-</u>	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	į	İ				İ	İ	i	i	i	İ	i	
Ridgeton	В	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
	ļ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
Cokato	l I B	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:
CORACO	1 2	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	<u> </u>	110150					110150	Morbe				110150	
Belview	В	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:
	İ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
Hamel	   в/D	  0.0-2.6:	  0.0-3.3:	  0.0-1.0:	  0.0-0.5:	  0.0-0.7:	  0.0-1.0:	  0.0-2.6:	  0.0-3.3:	  0.0-2.6:	  0.0-1.6:	  0.0-1.0:	
пашет	ו א/ש	0.0-2.6:   Moist	0.0-3.3:   Moist	0.0-1.0:   Moist	0.0-0.5:   Moist	0.0-0.7:   Moist	0.0-1.0:   Moist	0.0-2.6:   Moist	0.0-3.3:   Moist	0.0-2.6:   Moist	0.0-1.6:   Moist	0.0-1.0:   Moist	0.0-1.3:   Moist
	 	MOIST  2.6-6.7:	Moist  3.3-6.7:	Moist  1.0-6.7:	Moist  0.5-6.7:	MOIST  0.7-6.7:	Moist  1.0-6.7:	Moist  2.6-6.7:	Moist  3.3-6.7:	Moist  2.6-6.7:	MOIST  1.6-6.7:	MOIST  1.0-6.7:	Moist  1.3-6.7:
	 	•	•	•	•	'	•	•	•	•	1	•	•
	!	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet

Table 17.--Soil Moisture Status by Depth--Continued

	  Hydro-  logic  group	   January 	February	March 	April 	May 	June	July	August	  September 	October	November	December
L110E:		 											
Terril	   B   	  0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-3.6:   Moist  3.6-6.7:   Wet	0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-5.9:   Moist  5.9-6.7:   Wet	0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-5.2:   Moist  5.2-6.7:   Wet
L110F:	 	l İ	l I	 			l I		l I		l i		
Lester	   в 	  0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist
Ridgeton	   B 	  0.0-6.7:   Moist                       > 0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-6.7:   Moist	  0.0-6.7:   Moist								
Cokato	   B 	  0.0-6.7:   Moist                       > 0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist	  0.0-6.7:   Moist								
Belview	   B 	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist	  0.0-5.0:   Moist
Terril	   B   	  0.0-6.7:   Moist 	0.0-6.7:   Moist 	  0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-3.6:   Moist  3.6-6.7:   Wet	  0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-4.6:   Moist  4.6-6.7:   Wet	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	0.0-6.7:   Moist 	  0.0-5.9:   Moist  5.9-6.7:   Wet	  0.0-4.6:   Moist  4.6-6.7:   Wet	  0.0-5.2:   Moist  5.2-6.7:   Wet
Hamel	   B/D     	  0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-3.3:   Moist  3.3-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-0.5:   Moist   0.5-6.7:   Wet	0.0-0.7:   Moist   0.7-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-2.6:   Moist   2.6-6.7:   Wet	0.0-3.3:   Moist  3.3-6.7:   Wet	0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-1.6:   Moist  1.6-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.3:   Moist  1.3-6.7:   Wet
L111A:	İ	 		 									
Nicollet	B     	0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-6.7:   Moist 	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-1.5:   Moist  1.5-6.7:   Wet	0.0-1.6:   Moist  1.6-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-6.7:   Moist 	0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-2.3:   Moist  2.3-6.7:   Wet
Clarion	   в   	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-4.6:   Moist  4.6-6.7:   Wet	  0.0-3.6:   Moist  3.6-6.7:   Wet	  0.0-3.9:   Moist  3.9-6.7:   Wet	  0.0-4.6:   Moist  4.6-6.7:   Wet	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-6.7:   Moist 	  0.0-4.6:   Moist  4.6-6.7:   Wet	  0.0-6.7:   Moist 
Webster	   B/D     	  0.0-2.6:   Moist  2.6-6.7:   Wet	Moist	  0.0-1.0:   Moist  1.0-6.7:   Wet	  0.0-0.5:   Moist  0.5-6.7:   Wet	  0.0-0.7:   Moist  0.7-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet	  0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-3.3:   Moist  3.3-6.7:   Wet	  0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-1.6:   Moist  1.6-6.7:   Wet	  0.0-1.0:   Moist  1.0-6.7:   Wet	  0.0-1.3:   Moist  1.3-6.7:   Wet

Table 17.--Soil Moisture Status by Depth--Continued

and	Hydro-  logic	January 	February	March	April 	May 	June	July 	August	September	October	November	Decembe
component name	group	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>
L112A:	 	 			l I	1	1	1	1			I	
Webster	l B/D	  0.0-2.6:	10.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	  0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
	-/-	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	İ	2.6-6.7:	3.3-6.7:	1.0-6.7:	0.5-6.7:	0.7-6.7:	1.0-6.7:	2.6-6.7:	3.3-6.7:	2.6-6.7:	1.6-6.7:	1.0-6.7:	1.3-6.7:
	į	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Glencoe	   B/D	  0.0-1.5:	  0.0-2.0:	  0.0-5.0:	  0.0-5.0:	  0.0-0.5:	0.0-1.0:	  0.0-1.5:	  0.0-2.0:	  0.0-1.5:	  0.0-1.0:	0.0-1.0:	
GIGHGGG	5/5	Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.5-5.0:	2.0-5.0:			0.5-5.0:	11.0-5.0:	1.5-5.0:	2.0-5.0:	1.5-5.0:	1.0-5.0:	11.0-5.0:	11.0-5.0:
	i	Wet	Wet	į		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Nicollet	 I в	  0.0-3.9:	  0.0-6.7:	  0.0-2.0:	  0.0-1.5:	  0.0-1.6:	0.0-2.0:	  0.0-3.9:	  0.0-6.7:	  0.0-3.9:	  0.0-2.6:	  0.0-2.0:	10.0-2.3:
MICOIIEC	1 2	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		3.9-6.7:		2.0-6.7:	1.5-6.7:	11.6-6.7:	2.0-6.7:	3.9-6.7:		3.9-6.7:	2.6-6.7:	2.0-6.7:	2.3-6.7:
	į	Wet	į	Wet	Wet	Wet	Wet	Wet	į	Wet	Wet	Wet	Wet
L113B:	 	 		 									
Reedslake	'   в	0.0-6.7:	0.0-6.7:	0.0-4.6:	0.0-3.6:	0.0-3.9:	0.0-4.6:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-5.9:	0.0-4.6:	0.0-5.2:
	i	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	į	j	j	4.6-6.7:	3.6-6.7:	3.9-6.7:	4.6-6.7:	j	j	j	5.9-6.7:	4.6-6.7:	5.2-6.7:
	İ	ĺ		Wet	Wet	Wet	Wet	į	İ		Wet	Wet	Wet
Le Sueur	   в	  0.0-3.9:	  0.0-5.9:	  0.0-2.0:	  0.0-1.5:	  0.0-1.6:	  0.0-2.0:	  0.0-3.9:	  0.0-5.9:	  0.0-3.9:	  0.0-2.6:	0.0-2.0:	10.0-2.3:
	İ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	İ	3.9-6.7:	5.9-6.7:	2.0-6.7:	1.5-6.7:	1.6-6.7:	2.0-6.7:	3.9-6.7:	5.9-6.7:	3.9-6.7:	2.6-6.7:	2.0-6.7:	2.3-6.7:
	ļ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Reedslake,	 	 	 	 							 		 
eroded	B	0.0-6.7:	0.0-6.7:	0.0-4.6:	0.0-3.6:	0.0-3.9:	0.0-4.6:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-5.9:	0.0-4.6:	0.0-5.2:
	ĺ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
				4.6-6.7:	3.6-6.7:	3.9-6.7:	4.6-6.7:				5.9-6.7:	4.6-6.7:	5.2-6.7:
				Wet	Wet	Wet	Wet				Wet	Wet	Wet
Cordova	   B/D	0.0-2.6:	0.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.6-6.7:	3.3-6.7:	1.0-6.7:	0.5-6.7:	0.7-6.7:	1.0-6.7:	2.6-6.7:	3.3-6.7:	2.6-6.7:	1.6-6.7:	1.0-6.7:	1.3-6.7:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
L114A:	 	! 		 									
Hanlon, rarely	İ	İ	i	İ	İ	İ	İ	i	i	İ	İ	İ	i
flooded	в	0.0-3.6:	0.0-3.9:	0.0-2.8:	0.0-2.5:	0.0-2.6:	0.0-3.0:	0.0-3.6:	0.0-3.9:	0.0-3.6:	0.0-3.3:	0.0-3.0:	0.0-3.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		3.6-6.7:	3.9-6.7:	2.8-6.7:	2.5-6.7:	2.6-6.7:	3.0-6.7:	3.6-6.7:	3.9-6.7:	3.6-6.7:	3.3-6.7:	3.0-6.7:	3.3-6.7:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet

Table	17Soil	Moisture	Status	bv	DepthContinued
Table	175011	MOISCULE	Blatus	Dy	DepthContinued

Map symbol and component name	Hydro-  logic  group	January   	February   	March   	April 	May 	June 	July   	August   	September   	October   	November	Decembe
	[	[	ļ	[	1	Ţ	1		Ţ	I	[	Į.	1
L114A:	ļ	ļ	!	ļ	!	ļ	ļ	!	ļ	ļ		!	
Coland,	ļ	ļ	!	!	!	ļ	ļ	!	ļ	!		!	!
occasionally													
flooded	B/D	0.0-2.6:	0.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
	ļ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.6-5.0:	3.3-5.0:	1.0-5.0:	0.5-5.0:	0.7-5.0:	1.0-5.0:	2.6-5.0:	3.3-5.0:	2.6-5.0:	1.6-5.0:	1.0-5.0:	1.3-5.0:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Minneopa, rarely	i i	 		 		;			i	1	 	1	
flooded	В	0.0-3.6:	0.0-3.9:	0.0-2.8:	0.0-2.5:	0.0-2.6:	0.0-3.0:	0.0-3.6:	0.0-3.9:	0.0-3.6:	0.0-3.3:	0.0-3.0:	0.0-3.3:
	i	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	3.6-5.0:	3.9-5.0:	2.8-5.0:	2.5-5.0:	2.6-5.0:	3.0-5.0:	3.6-5.0:	3.9-5.0:	3.6-5.0:	3.3-5.0:	3.0-5.0:	3.3-5.0:
	İ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
L115A:											 		
Brownton	l l c/p	0.0-2.0:	0.0-2.6:	0.0-0.8:	1	1	10.0-0.8:	10.0-2.0:	10.0-2.6:	0.0-2.0:	0.0-1.3:	1 0.0-0.7:	0.0-1.0:
DIOWILCOIL	1 0,2	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	2.0-5.0:	2.6-5.0:	0.8-5.0:	0.5-5.0:	0.5-5.0:	0.8-5.0:	2.0-5.0:	2.6-5.0:	2.0-5.0:	1.3-5.0:	0.7-5.0:	1.0-5.0:
	İ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
_													
Lura	C/D	0.0-1.5:	0.0-2.0:	0.0-6.0:	0.0-6.0:	0.0-0.5:	0.0-0.7:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-0.5:	0.0-0.8:
		Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.5-6.0:	2.0-6.0:			0.5-6.0:	0.7-6.0:	1.5-6.0:	2.0-6.0:	1.5-6.0:	1.0-6.0:	0.5-6.0:	0.8-6.0:
	 	Wet	Wet	 		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Marna	C/D	0.0-2.0:	0.0-2.6:	0.0-0.8:	0.0-0.5:	0.0-0.5:	0.0-0.8:	0.0-2.0:	0.0-2.6:	0.0-2.0:	0.0-1.3:	0.0-0.7:	0.0-1.0:
	İ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	İ	2.0-6.7:	2.6-6.7:	0.8-6.7:	0.5-6.7:	0.5-6.7:	0.8-6.7:	2.0-6.7:	2.6-6.7:	2.0-6.7:	1.3-6.7:	0.7-6.7:	1.0-6.7:
	ļ.	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
L116A:	l I	 	 	 	l I	l I	l I	I	 	 	 	l I	
Le Sueur	В	0.0-3.9:	0.0-5.9:	0.0-2.0:	0.0-1.5:	0.0-1.6:	0.0-2.0:	0.0-3.9:	0.0-5.9:	0.0-3.9:	0.0-2.6:	0.0-2.0:	0.0-2.3:
	İ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	İ	3.9-6.7:	5.9-6.7:	2.0-6.7:	1.5-6.7:	1.6-6.7:	2.0-6.7:	3.9-6.7:	5.9-6.7:	3.9-6.7:	2.6-6.7:	2.0-6.7:	2.3-6.7:
	į	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Lerdal	   c	  0.0-3.0:	  0.0-4.9:	  0.0-3.0:	  0.0-1.7:	  0.0-3.0:	0.0-1.8:	0.0-3.0:	  0.0-4.9:	  0.0-3.9:	  0.0-2.3:	  0.0-1.6:	
LGI GGI		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		3.0-6.7:	4.9-6.7:	3.0-4.0:	11.7-2.5:	3.0-3.5:	11.8-6.7:	3.0-6.7:	4.9-6.7:	3.9-6.7:	2.3-6.7:	11.6-6.7:	2.0-6.7:
	i	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	i			Wet  4.0-4.4:	2.5-3.0:	3.5-3.9:		wec	wec	wec		wet	wet
	i	İ	i	Moist	Moist	Moist	i	i	i	1	i	i	
	i			4.4-6.7:	3.0-6.7:	3.9-6.7:	i				 	i	i
	!	!	!	Wet	Wet	Wet	!	!	!	!	!	!	!

Table 17.--Soil Moisture Status by Depth--Continued

	Hydro-	January	February	March	April	May	June	July	August	September	October	November	December
component name	group	 		 	1	1	 	-	 	1	 	 	 
		1	1	İ	İ	1	İ	I		İ		İ	
L116A:	İ	j	j	İ	İ	j	j	į	İ	j	į	İ	j
Mazaska	C/D	0.0-2.0:	0.0-2.6:	0.0-0.8:	0.0-0.5:	0.0-0.5:	0.0-0.8:	0.0-2.0:	0.0-2.6:	0.0-2.0:	0.0-1.3:	0.0-0.7:	0.0-1.0:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.0-6.7:	2.6-6.7:	0.8-6.7:	0.5-6.7:	0.5-6.7:	0.8-6.7:	2.0-6.7:	2.6-6.7:	2.0-6.7:	1.3-6.7:	0.7-6.7:	1.0-6.7:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Kilkenny	l I C	  0.0-4.9:	  0.0-6.7:	  0.0-3.0:	  0.0-1.7:	0.0-3.0:	0.0-4.4:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-5.2:	0.0-4.6:	0.0-4.6:
	i	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		4.9-6.7:		3.0-4.0:	1.7-2.5:	3.0-3.5:	4.4-6.7:				5.2-6.7:	4.6-6.7:	4.6-6.7:
		Wet	i	Wet	Wet	Wet	Wet	i	i	i	Wet	Wet	Wet
	i		i	4.0-4.4:	2.5-3.0:	3.5-3.9:		i	i	i			
	i	i	i	Moist	Moist	Moist	i	i	i	i	i	i	i
	i	j	j	4.4-6.7:	3.0-6.7:	3.9-6.7:	j	j	j	j	j	i	j
	ĺ	į	į	Wet	Wet	Wet	į	į	į	į	į	į	į
L117C2:		 		 							 		
Omsrud, eroded	l I B	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
· · · · · · · · · · · · · · · · · · ·	i -	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i		i	i	i		i	i	i	i	İ	i	i
Omsrud	В	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
Terril	l I B	  0.0-6.7:	  0.0-6.7:	  0.0-4.6:	  0.0-3.6:	  0.0-3.9:	  0.0-4.6:	  0.0-6.7:	  0.0-6.7:	  0.0-6.7:	  0.0-5.9:	0.0-4.6:	  0.0-5.2:
101111	-	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i			4.6-6.7:	3.6-6.7:	3.9-6.7:	4.6-6.7:				5.9-6.7:	4.6-6.7:	5.2-6.7:
		İ	i	Wet	Wet	Wet	Wet	İ	i	İ	Wet	Wet	Wet
Delft	   B/D	  0.0-2.6:	  0.0-3.3:	  0.0-1.0:	  0.0-0.5:	  0.0-0.7:	  0.0-1.0:	  0.0-2.6:	  0.0-3.3:	  0.0-2.6:	  0.0-1.6:	  0.0-1.0:	0.0-1.3:
Dellc	ע/ם ן ו	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	l I	2.6-5.0:		1.0-5.0:	0.5-5.0:	0.7-5.0:	1.0-5.0:	2.6-5.0:	3.3-5.0:	2.6-5.0:	1.6-5.0:	1.0-5.0:	1.3-5.0:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	l												
Storden, eroded	В	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
	l	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
L118A:	l I	I I		I I		I I		1			I I	 	
Rushriver,			1		1		1	1	1	-	I I	1	1
frequently		i	i	i	1	1	1	1	1	1	i i	1	1
flooded	B/D	0.0-1.3:	0.0-1.6:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-1.6:	0.0-2.0:	0.0-1.6:	0.0-1.3:	0.0-1.0:	0.0-1.3:
	-/-	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	1.3-6.7:		1.0-6.7:	0.0-6.7:	0.7-6.7:	1.0-6.7:	1.6-6.7:	2.0-6.7:	1.6-6.7:	1.3-6.7:	1.0-6.7:	1.3-6.7:
	i	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
·			1										
Houghton,			1	I	!		ļ	1		1	I	ļ	ļ
frequently													
flooded	A/D	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:
	l	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet

Map symbol and component name	  Hydro-  logic  group	   January 	   February 	   March 	   April 	   May 	   June 	   July 	   August 	  September 	   October 	   November 	   December 
L118A: Klossner,	   		 							 		 	
frequently flooded	   A/D 	  0.0-5.0:   Wet	  0.0-5.0:   Wet	  0.0-5.0:   Wet	  0.0-5.0:   Wet	  0.0-5.0:   Wet	  0.0-5.0:   Wet	  0.0-5.0:   Wet	  0.0-5.0:   Wet	  0.0-5.0:   Wet	  0.0-5.0:   Wet	  0.0-5.0:   Wet	  0.0-5.0:   Wet
Medo, frequently flooded		0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-6.7:
L119B:	   	Wet   	Wet   	Wet   	Wet   	Wet   	Wet   	Wet   	Wet   	Wet   	Wet   	Wet   	Wet   
Angus	B     	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-3.6:   Moist  3.6-6.7:   Wet	0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-4.6:   Moist   4.6-6.7:   Wet	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-5.9:   Moist  5.9-6.7:   Wet	0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-5.2:   Moist  5.2-6.7:   Wet
Angus, eroded	     	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-3.6:   Moist  3.6-6.7:   Wet	0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-6.7:   Moist 	0.0-5.9:   Moist  5.9-6.7:   Wet	0.0-4.6:   Moist  4.6-6.7:   Wet	0.0-5.2:   Moist  5.2-6.7:   Wet
Cordova	   B/D     	  0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-3.3:   Moist  3.3-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	  0.0-0.5:   Moist  0.5-6.7:   Wet	  0.0-0.7:   Moist  0.7-6.7:   Wet	0.0-1.0:   Moist   1.0-6.7:   Wet	  0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-3.3:   Moist   3.3-6.7:   Wet	0.0-2.6:   Moist   2.6-6.7:   Wet	0.0-1.6:   Moist  1.6-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.3:   Moist  1.3-6.7:   Wet
Le Sueur	   B   	  0.0-3.9:   Moist  3.9-6.7:   Wet	  0.0-5.9:   Moist  5.9-6.7:   Wet	  0.0-2.0:   Moist  2.0-6.7:   Wet	  0.0-1.5:   Moist  1.5-6.7:   Wet	  0.0-1.6:   Moist  1.6-6.7:   Wet	  0.0-2.0:   Moist  2.0-6.7:   Wet	  0.0-3.9:   Moist  3.9-6.7:   Wet	  0.0-5.9:   Moist  5.9-6.7:   Wet	0.0-3.9:   Moist   3.9-6.7:   Wet	  0.0-2.6:   Moist  2.6-6.7:   Wet	  0.0-2.0:   Moist  2.0-6.7:   Wet	0.0-2.3:   Moist   2.3-6.7:   Wet
L120A:			l I	 	l i		l I	l i		l I	 	 	 
Good Thunder	   C   	0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-5.6:   Moist  5.6-6.7:   Wet	0.0-2.8:   Moist  2.8-6.7:   Wet	0.0-2.5:   Moist  2.5-6.7:   Wet	0.0-2.5:   Moist  2.5-6.7:   Wet	0.0-2.8:   Moist  2.8-6.7:   Wet	0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-5.6:   Moist  5.6-6.7:   Wet	0.0-3.9:   Moist  3.9-6.7:   Wet	0.0-3.0:   Moist  3.0-6.7:   Wet	0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-2.8:   Moist  2.8-6.7:   Wet
Ocheyedan	   B   	0.0-5.0:   Moist 	0.0-5.0:   Moist 	0.0-4.6:   Moist  4.6-5.0:   Wet	0.0-3.6:   Moist   3.6-5.0:   Wet	0.0-3.9:   Moist  3.9-5.0:   Wet	  0.0-4.6:   Moist  4.6-5.0:   Wet	0.0-5.0:   Moist 	0.0-5.0:   Moist 	0.0-5.0:   Moist 	0.0-5.0:   Moist 	0.0-4.6:   Moist   4.6-5.0:   Wet	0.0-5.0:   Moist 
Minnetonka	   C/D	  0.0-2.0:	  0.0-2.5:	  0.0-0.8:	  0.0-0.5:	  0.0-0.5:	  0.0-0.8:	0.0-2.0:	  0.0-2.5:	0.0-2.0:	  0.0-1.5:	  0.0-0.7:	  0.0-1.0:

Moist

Wet

Moist

Wet

Moist

Wet

Moist

Wet

|2.0-6.7: |2.5-6.7: |0.8-6.7: |0.5-6.7: |0.5-6.7: |0.8-6.7: |2.0-6.7:

Moist

Wet

Moist

Wet

Moist

Wet

Moist

Wet

Moist

Wet

Moist

|2.5-6.7: |2.0-6.7: |1.5-6.7: |0.7-6.7: |1.0-6.7:

Wet

Moist

Wet

Moist

Wet

Table 17.--Soil Moisture Status by Depth--Continued

Table 17.--Soil Moisture Status by Depth--Continued

and	Hydro- logic group	January   	February	March   	April   	May	June	July	August   	September	October	November	Decembe
L121B:		 		 									
Clarion	B	0.0-6.7:   Moist 	0.0-6.7:   Moist	0.0-4.6:   Moist  4.6-6.7:	0.0-3.6:   Moist  3.6-6.7:	0.0-3.9:   Moist  3.9-6.7:	0.0-4.6:   Moist  4.6-6.7:	0.0-6.7:   Moist 	0.0-6.7:   Moist	0.0-6.7:   Moist	0.0-5.9:   Moist  5.9-6.7:	0.0-4.6:   Moist  4.6-6.7:	0.0-5.2:   Moist  5.2-6.7:
				Wet	Wet	Wet	Wet	į	į	į	Wet	Wet	Wet
Guckeen	   C	  0.0-3.0:	  0.0-4.9:	  0.0-1.8:	  0.0-1.5:	0.0-1.5:	0.0-1.8:	  0.0-3.0:	  0.0-4.9:	  0.0-3.0:	0.0-2.3:	  0.0-1.6:	0.0-2.0:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	İ	3.0-5.0:	4.9-5.0:	1.8-5.0:	1.5-5.0:	1.5-5.0:	1.8-5.0:	3.0-5.0:	4.9-5.0:	3.0-5.0:	2.3-5.0:	1.6-5.0:	2.0-5.0:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Marna	   C/D	  0.0-2.0:	0.0-2.6:	  0.0-0.8:	0.0-0.5:	0.0-0.5:	0.0-0.8:	0.0-2.0:	0.0-2.6:	0.0-2.0:	0.0-1.3:	0.0-0.7:	0.0-1.0:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.0-5.0:	2.6-5.0:	0.8-5.0:	0.5-5.0:	0.5-5.0:	0.8-5.0:	2.0-5.0:	2.6-5.0:	2.0-5.0:	1.3-5.0:	0.7-5.0:	1.0-5.0:
	 	Wet 	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
L122B:		 		İ							i		
Reedslake	В	0.0-6.7:	1	0.0-4.6:	0.0-3.6:	0.0-3.9:	0.0-4.6:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-5.9:	0.0-4.6:	0.0-5.2:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
				4.6-6.7:	3.6-6.7:	3.9-6.7:	4.6-6.7:				5.9-6.7:	4.6-6.7:	5.2-6.7:
		 		Wet 	Wet	Wet	Wet				Wet	Wet	Wet
Estherville	В	0.0-5.0:		0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:
		Moist 	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
Le Sueur	В	0.0-3.9:	0.0-5.0:	0.0-2.0:	0.0-1.5:	0.0-1.6:	0.0-2.0:	0.0-3.9:	0.0-5.0:	0.0-3.9:	0.0-2.6:	0.0-2.0:	0.0-2.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		3.9-5.0:	ļ	2.0-5.0:	1.5-5.0:	1.6-5.0:	2.0-5.0:	3.9-5.0:	ļ	3.9-5.0:	2.6-5.0:	2.0-5.0:	2.3-5.0:
	 	Wet 		Wet 	Wet 	Wet 	Wet 	Wet 	 	Wet 	Wet	Wet 	Wet
Cordova	B/D	0.0-2.6:	0.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.6-6.7:	3.3-6.7:	1.0-6.7:	0.5-6.7:	0.7-6.7:	1.0-6.7:	2.6-6.7:	3.3-6.7:	2.6-6.7:	1.6-6.7:	1.0-6.7:	1.3-6.7:
		Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 	Wet 
Lowlein	В	0.0-3.6:	1	0.0-2.8:	0.0-2.5:	0.0-2.6:	0.0-3.0:	0.0-3.6:	0.0-3.9:	0.0-3.6:	0.0-3.3:	0.0-3.0:	0.0-3.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		3.6-5.0:	3.9-5.0:	2.8-5.0:	2.5-5.0:	2.6-5.0:	3.0-5.0:	3.6-5.0:	3.9-5.0:	3.6-5.0:	3.3-5.0:	3.0-5.0:	3.3-5.0:
		Wet 	Wet 	Wet 	Wet 	Wet 	Wet	Wet 	Wet 	Wet	Wet 	Wet 	Wet 
L123A:								į.					
Belleville	B/D	0.0-1.3:	0.0-1.6:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-1.6:	0.0-2.0:	0.0-1.6:	0.0-1.3:	0.0-1.0:	0.0-1.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		1.3-6.7:	1.6-6.7:	1.0-6.7:	0.5-6.7:	0.7-6.7:	1.0-6.7:	1.6-6.7:	2.0-6.7:	1.6-6.7:	1.3-6.7:	1.0-6.7:	1.3-6.7:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet

Table 17.--Soil Moisture Status by Depth--Continued

	Hydro- logic	   January 	February	March	April	May	June	July	August	September	October	November	Decembe
component name	group	i	i	i	i	i	i	i	i	i	i	i	i
		İ	i	İ	i	i	i	i	i	i	i	i	1
L123A:		i	i	İ	i	i	i	i	i	i	i	i	i
Granby	A/D	0.0-1.1:	0.0-1.5:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-5.0:	0.0-1.5:	0.0-1.8:	0.0-1.5:	0.0-0.5:	0.0-1.0:	0.0-0.8:
-		Moist	Moist	Wet	Wet	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist
j		1.1-5.0:	1.5-5.0:	j	j	j	j	1.5-5.0:	1.8-5.0:	1.5-5.0:	0.5-5.0:	1.0-5.0:	0.8-5.0:
		Wet	Wet		I	1		Wet	Wet	Wet	Wet	Wet	Wet
L124A:		 											
Glencoe mucky		l I	1	I I			I I				I I		!
clay loam	B/D	  0.0-1.5:	10.0-2.0:	0.0-5.0:	  0.0-5.0:	10.0-0.5:	0.0-1.0:	  0.0-1.5:	10.0-2.0:	  0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
ciay ioam	ם,ם	Moist	Moist	Wet	Wet	Moist	Moist						
		11.5-5.0:	2.0-5.0:			0.5-5.0:	11.0-5.0:	11.5-5.0:	2.0-5.0:	11.5-5.0:	11.0-5.0:	11.0-5.0:	11.0-5.0:
i		Wet	Wet	İ	i	Wet	Wet						
Gard at a c	D /D												
Canisteo	В/Д		0.0-3.3:   Moist	0.0-1.0:   Moist	0.0-0.5:   Moist	0.0-0.7:   Moist	0.0-1.0:   Moist	0.0-2.6:   Moist	0.0-3.3:   Moist	0.0-2.6:   Moist	0.0-1.6:   Moist	0.0-1.0:   Moist	0.0-1.3:   Moist
		  0.0-2.6:	MOIST  3.3-6.7:	1.0-6.7:	0.5-6.7:	0.7-6.7:	2.0-6.7:	2.6-6.7:	3.3-6.7:	2.6-6.7:	1.6-6.7:	1.0-6.7:	1.3-6.7:
		Moist	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
		2.6-6.7:			wec	wec	wec	wec	wet	wec		wet	wec
		Wet											
i		 	i	i	i	i	i	i	i	i	i	i	i
Glencoe clay		İ	i	j	i	i	i	i	i	i	j	j	i
loam	B/D	0.0-1.5:	0.0-2.0:	0.0-5.0:	0.0-5.0:	0.0-0.5:	0.0-1.0:	0.0-1.5:	0.0-2.0:	0.0-1.5:	0.0-1.0:	0.0-1.0:	0.0-1.0:
		Moist	Moist	Wet	Wet	Moist	Moist						
		1.5-5.0:	2.0-5.0:	ļ	ļ	0.5-5.0:	1.0-5.0:	1.5-5.0:	2.0-5.0:	1.5-5.0:	1.0-5.0:	1.0-5.0:	1.0-5.0:
		Wet	Wet		!	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
L125A:		 		 	1	 		1	-		 	I	
Hanlon, rarely		İ	i	i	i	i	i	i	i	i	i	i	i
flooded	В	0.0-3.6:	0.0-3.9:	0.0-2.8:	0.0-2.5:	0.0-2.6:	0.0-3.0:	0.0-3.6:	0.0-3.9:	0.0-3.6:	0.0-3.3:	0.0-3.0:	0.0-3.3:
i		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
j		3.6-6.7:	3.9-6.7:	2.8-6.7:	2.5-6.7:	2.6-6.7:	3.0-6.7:	3.6-6.7:	3.9-6.7:	3.6-6.7:	3.3-6.7:	3.0-6.7:	3.3-6.7:
		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Coland,		 	l I	 							 		
occasionally		i	1	i	i	i	i	i	i	i	i	i	i
flooded	B/D	0.0-2.6:	0.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
i		2.6-5.0:	3.3-5.0:	1.0-5.0:	0.5-5.0:	0.7-5.0:	1.0-5.0:	2.6-5.0:	3.3-5.0:	2.6-5.0:	1.6-5.0:	1.0-5.0:	1.3-5.0:
į		Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Minneopa, rarely		 				1	1	1	1		 		1
flooded	В	  0.0-3.6:	0.0-3.9:	0.0-2.8:	0.0-2.5:	0.0-2.6:	10.0-3.0:	10.0-3.6:	10.0-3.9:	0.0-3.6:	0.0-3.3:	0.0-3.0:	10.0-3.3:
	_		1		Moist	Moist	Moist	Moist	Moist	Moist	•		
1100deu		Moist	Moist	Moist	I MOIST	I MOISL	I MOISL	I MOISL	I MOISL	I MOIST	Moist	Moist	Moist
 		Moist  3.6-5.0:	Moist  3.9-5.0:	MOIST  2.8-5.0:	2.5-5.0:	2.6-5.0:	3.0-5.0:	MOISC  3.6-5.0:	3.9-5.0:	3.6-5.0:	Moist  3.3-5.0:	Moist  3.0-5.0:	Moist  3.3-5.0:

Table 17.--Soil Moisture Status by Depth--Continued

Map symbol and component name	  Hydro-  logic  group	   January   	   February   	   March   	   April   	   May   	   June 	   July 	August   	  September   	   October   	   November 	   December   
L126A: Coland, occasionally	   	     		     	     	     	     	     	     		     		     
flooded	   B/D     	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.7:   Moist  0.7-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-1.6:   Moist  1.6-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.3:   Moist  1.3-5.0:   Wet
Minneopa, occasionally	   	   		   	   	   	   				   	   	   
flooded	B     	0.0-3.6:   Moist  3.6-5.0:   Wet	0.0-3.9:   Moist  3.9-5.0:   Wet	0.0-2.8:   Moist  2.8-5.0:   Wet	0.0-2.5:   Moist   2.5-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.0:   Moist  3.0-5.0:   Wet	0.0-3.6:   Moist  3.6-5.0:   Wet	0.0-3.9:   Moist  3.9-5.0:   Wet	0.0-3.6:   Moist  3.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	0.0-3.0:   Moist  3.0-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet
Havelock, occasionally flooded	     B/D   	    0.0-2.6:   Moist  2.6-5.0:   Wet	  0.0-3.3:   Moist  3.3-5.0:   Wet	    0.0-1.0:   Moist  1.0-5.0:   Wet	    0.0-0.5:   Moist  0.5-5.0:   Wet	    0.0-0.7:   Moist  0.7-5.0:   Wet	    0.0-1.0:   Moist  1.0-5.0:   Wet	    0.0-2.6:   Moist  2.6-5.0:   Wet	  0.0-3.3:   Moist  3.3-5.0:   Wet	  0.0-2.6:   Moist  2.6-5.0:   Wet	    0.0-1.6:   Moist  1.6-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	    0.0-1.3:   Moist  1.3-5.0:   Wet
Spillville, occasionally flooded	       B   	    0.0-3.9:   Moist  3.9-5.0:   Wet	    0.0-5.0:   Moist 	    0.0-2.0:   Moist  2.0-5.0:   Wet	    0.0-1.5:   Moist  1.5-5.0:   Wet	    0.0-1.6:   Moist  1.6-5.0:   Wet	    0.0-2.0:   Moist  2.0-5.0:   Wet	  0.0-3.9:  Moist  3.9-5.0:  Wet	    0.0-5.0:   Moist 	    0.0-3.9:   Moist  3.9-5.0:   Wet	    0.0-2.6:   Moist  2.6-5.0:   Wet	  0.0-2.0:   Moist  2.0-5.0:   Wet	    0.0-2.3:   Moist  2.3-5.0:   Wet
L127A: Coland, frequently flooded	       B/D   	    0.0-2.6:   Moist  2.6-5.0:   Wet	  0.0-3.3:  Moist  3.3-5.0:   Wet	    0.0-1.0:   Moist  1.0-5.0:   Wet	    0.0-0.5:   Moist  0.5-5.0:   Wet	  0.0-0.7:   Moist  0.7-5.0:   Wet	    0.0-1.0:   Moist  1.0-5.0:   Wet	  0.0-2.6:   Moist  2.6-5.0:   Wet	    0.0-3.3:   Moist  3.3-5.0:   Wet	    0.0-2.6:   Moist  2.6-5.0:   Wet	    0.0-1.6:   Moist  1.6-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	    0.0-1.3:   Moist  1.3-5.0:   Wet
Minneopa, occasionally flooded	       B	      0.0-3.6:	      0.0-3.9:	      0.0-2.8:	      0.0-2.5:	      0.0-2.6:	      0.0-3.0:	      0.0-3.6:	      0.0-3.9:	      0.0-3.6:	      0.0-3.3:	      0.0-3.0:	      0.0-3.3:
r1ooded	B     	0.0-3.6:   Moist  3.6-5.0:   Wet 	0.0-3.9:   Moist  3.9-5.0:   Wet	0.0-2.8:   Moist  2.8-5.0:   Wet 	0.0-2.5:   Moist  2.5-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.0:   Moist  3.0-5.0:   Wet	0.0-3.6:   Moist   3.6-5.0:   Wet	0.0-3.9:   Moist  3.9-5.0:   Wet	0.0-3.6:   Moist  3.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	0.0-3.0:   Moist  3.0-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet 

Table	17Soil	Moisture	Status	by	DepthContinued

	Hydro-	January	February	March	April	May	June	July	August	September	October	November	December
component name	group	l I	I I	I I	I I					I I	 	I I	
COMPONENT NAME	group 	l	1	1	1		1		1	1	1	1	I
L127A:	! !	 	-	! !			!	-				-	!
Havelock, frequently		 						-			 		
flooded	l l B/D	  0.0-2.6:	10.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	10.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
1100000	1 2/2	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	2.6-5.0:		1.0-5.0:	0.5-5.0:	0.7-5.0:	11.0-5.0:	2.6-5.0:	3.3-5.0:	2.6-5.0:	1.6-5.0:	1.0-5.0:	1.3-5.0:
	i	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	İ	İ	İ	İ	İ	İ	İ	j	j	İ	İ	İ	İ
Spillville, occasionally	 	 	 	 	 	 		 	 	 	 	 	 
flooded	B	0.0-3.9:	0.0-5.0:	0.0-2.0:	0.0-1.5:	0.0-1.6:	0.0-2.0:	0.0-3.9:	0.0-5.0:	0.0-3.9:	0.0-2.6:	0.0-2.0:	0.0-2.3:
	İ	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		3.9-5.0:		2.0-5.0:	1.5-5.0:	1.6-5.0:	2.0-5.0:	3.9-5.0:		3.9-5.0:	2.6-5.0:	2.0-5.0:	2.3-5.0:
	!	Wet	İ	Wet	Wet	Wet	Wet	Wet	İ	Wet	Wet	Wet	Wet
L128A:	 	 	 	 	 		l I	 		 	 	 	 
Mazaska	C/D	0.0-2.0:	0.0-2.6:	0.0-0.8:	0.0-0.5:	0.0-0.5:	0.0-0.8:	0.0-2.0:	0.0-2.6:	0.0-2.0:	0.0-1.3:	0.0-0.7:	0.0-1.0:
	-/-	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	2.0-6.7:	2.6-6.7:	0.8-6.7:	0.5-6.7:	0.5-6.7:	0.8-6.7:	2.0-6.7:	2.6-6.7:	2.0-6.7:	1.3-6.7:	0.7-6.7:	1.0-6.7:
	İ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
Rolfe	 	  0.0-1.5:	  0.0-2.0:	  0.0-5.0:	0.0-5.0:	0.0-0.5:	  0.0-0.7:	  0.0-1.5:	  0.0-2.0:	  0.0-1.5:	  0.0-1.0:	  0.0-0.5:	0.0-0.8:
ROILC	1 0/2	Moist	Moist	Wet	Wet	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	i	1.5-5.0:	2.0-5.0:			0.5-5.0:	0.7-5.0:	11.5-5.0:	2.0-5.0:	11.5-5.0:	1.0-5.0:	0.5-5.0:	0.8-5.0:
	i	Wet	Wet	i	i	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	i			i	i	i	İ	1	i		İ		İ
Lerdal	C	0.0-3.0:	0.0-4.9:	0.0-3.0:	0.0-1.7:	0.0-3.0:	0.0-1.8:	0.0-3.0:	0.0-4.9:	0.0-3.9:	0.0-2.3:	0.0-1.6:	0.0-2.0:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		3.0-6.7:	4.9-6.7:	3.0-4.0:	1.7-2.5:	3.0-3.5:	1.8-6.7:	3.0-6.7:	4.9-6.7:	3.9-6.7:	2.3-6.7:	1.6-6.7:	2.0-6.7:
	ļ	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet
	ļ	ļ	ļ	4.0-4.4:	2.5-3.0:	3.5-3.9:	ļ	ļ	ļ	ļ	ļ		!
	ļ		ļ	Moist	Moist	Moist	ļ	ļ	ļ	!		ļ	!
	 	 		4.4-6.7:   Wet	3.0-6.7:   Wet	3.9-6.7:   Wet							
	i	İ	İ				<u> </u>	j	İ	i	İ	i	İ
L129B:	[		I	I	I	1	ļ	İ	ļ	I	ļ	I	1
Terril	В	0.0-6.7:	•	0.0-4.6:	0.0-3.6:	0.0-3.9:	0.0-4.6:	0.0-6.7:	0.0-6.7:	0.0-6.7:	0.0-5.9:	0.0-4.6:	0.0-5.2:
	!	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
	!	ļ	ļ	4.6-6.7:	3.6-6.7:	3.9-6.7:	4.6-6.7:	ļ	ļ	ļ	5.9-6.7:	4.6-6.7:	5.2-6.7:
		 		Wet	Wet	Wet	Wet				Wet	Wet	Wet
Delft	   B/D	  0.0-2.6:	0.0-3.3:	0.0-1.0:	0.0-0.5:	0.0-0.7:	0.0-1.0:	0.0-2.6:	0.0-3.3:	0.0-2.6:	0.0-1.6:	0.0-1.0:	0.0-1.3:
		Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist	Moist
		2.6-5.0:	3.3-5.0:	1.0-5.0:	0.5-5.0:	0.7-5.0:	1.0-5.0:	2.6-5.0:	3.3-5.0:	2.6-5.0:	1.6-5.0:	1.0-5.0:	1.3-5.0:
	I	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet

Table 17.--Soil Moisture Status by Depth--Continued

Map symbol and component name	Hydro-  logic  group	January   	February 	March	April	May 	June	July	August 	September	October	November	December
L129B:	 	 	 	 		l i	l I		l I		 		
Hamel	   B/D     	  0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-3.3:   Moist  3.3-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-0.5:   Moist  0.5-6.7:   Wet	0.0-0.7:   Moist  0.7-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-3.3:   Moist  3.3-6.7:   Wet	0.0-2.6:   Moist  2.6-6.7:   Wet	0.0-1.6:   Moist  1.6-6.7:   Wet	0.0-1.0:   Moist  1.0-6.7:   Wet	0.0-1.3:   Moist  1.3-6.7:   Wet
L130A:		!		!	!	!	!	-		!	ļ	!	
Okoboji mucky silty clay loam	   C/D     	  0.0-1.5:   Moist  1.5-5.0:   Wet	  0.0-2.0:   Moist  2.0-5.0:   Wet	  0.0-5.0:   Wet   	  0.0-5.0:   Wet 	  0.0-0.5:   Moist  0.5-5.0:   Wet	  0.0-0.7:   Moist  0.7-5.0:   Wet	  0.0-1.5:   Moist  1.5-5.0:   Wet	  0.0-2.0:   Moist  2.0-5.0:   Wet	  0.0-1.5:   Moist  1.5-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet
Okoboji silty	i		i					i		i		i	
clay loam	C/D       	0.0-1.5:   Moist  1.3-5.0:   Wet	0.0-2.0:   Moist  1.6-5.0:   Wet	0.0-5.0:   Wet   	0.0-5.0:   Wet   	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.7:   Moist  0.7-5.0:   Wet	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-1.5:   Moist  1.5-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.8:   Moist  0.8-5.0:   Wet
Brownton	C/D       	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-0.8:   Moist  0.8-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.5:   Moist  0.5-5.0:   Wet	0.0-0.8:   Moist  0.8-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-2.0:   Moist  2.0-5.0:   Wet	0.0-1.3:   Moist  1.3-5.0:   Wet	0.0-0.7:   Moist  0.7-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet
Spicer	   B/D     	  0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	  0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-0.5:   Moist   0.5-5.0:   Wet	  0.0-0.7:   Moist  0.7-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	  0.0-2.6:   Moist  2.6-5.0:   Wet	0.0-3.3:   Moist  3.3-5.0:   Wet	0.0-2.6:   Moist   2.6-5.0:   Wet	0.0-1.6:   Moist   1.6-5.0:   Wet	0.0-1.0:   Moist  1.0-5.0:   Wet	0.0-1.3:   Moist   1.3-5.0:   Wet
M-W.	 	 		 						 	 		
Water, miscellaneous		 		 									
U3B. Udorthents (cut and fill land)	     	     		     				     					
W. Water	   	 		 			 						

Table 18.--Flooding Frequency and Duration

(See text for definitions of terms used in this table. Absence of an entry indicates that no estimate was made)

	1	1	1		1	1		1	1	1	1	1
Map symbol and	   January   	   February 	March	April 	   May 	   June 	   July 	   August 	  September 	   October 	November	December
component name		1			<u> </u>	<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>	1
GP: Pits, gravel.	   	   	   	   	   	   	   	   	   	   	   	   
Udipsamments.	 		 	 	ļ Ī	 	 	 	ļ Į	ļ Ī	 	
L5A:	 	 			 		 	 	 	 		
Delft, overwash	None	None	None	None	None	None	None	None	None	None	None	None
Delft	  None 	  None	  None	  None	None	None	  None	None	None	None	None	  None
Glencoe	  None 	  None	  None	  None	None	None	None	None	None	None	None	  None
Terril	  None 	  None	  None 	  None 	None	None	None	None	None	None	None	None
L13A:	İ	i	i	i		İ	<u> </u>				İ	i
Klossner,	1	1	1	1	1	1	1	1		1	1	
drained	None	None	None	None	None	None	None	None	None	None	None	None
Mineral soil,	i	i	i	i	i	i	i	i		i	i	i
drained	  None	None	None	None	None	None	None	None	None	None	None	None
Houghton,	 	i	i	i	i	i	i	i	İ	i	i	i
drained	None	None	None	None	None	None	None	None	None	None	None	None
L14A:	į	i	i	i	İ	İ	i	İ	İ	İ	İ	j
Houghton,	I	1	1	1	1	1	1	1		1	1	
drained	None	None	None	None	None	None	None	None	None	None	None	None
Klossner,	i	i	i	i	i	i	i	İ	İ	i	i	i
drained	None	None	None	None	None	None	None	None	None	None	None	None
Mineral soil,	i	i	i	i	i	i	i	i	İ	i	i	i
drained	None	None	None	None	None	None	None	None	None	None	None	None
L15A:	 			-	 	l I	 	 	 	 	l I	
Klossner, ponded	None	None	None	None	None	None	None	None	None	None	None	None
Okoboji, ponded	  None	    None	    None	    None	None	None	    None	None	  None	None	None	None
Ovonoli' bouded	  NOME	  NOME	INOTIE	INOTIE	INOTIE	INOTIE	  NOME	None	  NOME	INOTIE	INOTIE	INOTIE
Glencoe, ponded	None	None	None	None	None	None	None	None	None	None	None	None
Houghton, ponded	None	None	None	None	None	None	None	None	None	None	None	None
	I	1	1	1	1	1	1	1	1	1	1	1

Table 18.--Flooding Frequency and Duration--Continued

Map symbol and component name	   January 	   February   	   March 	   April 	   May 	   June 	   July 	   August 	  September   	   October 	   November 	   December 
L16A: Muskego, ponded	    None	    None	    None	    None	    None	    None	    None	    None	    None	    None	    None	    None
Blue Earth, ponded	    None	    None	    None	    None	    None	    None	    None	    None	    None	    None	    None	    None
Houghton, ponded	  None 	  None	  None 	  None 	  None	  None 	  None 	  None	  None 	  None 	  None 	  None
Klossner, ponded	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
L26B: Shorewood	    None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 
Good Thunder	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	None
Minnetonka	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
L36A: Hamel, overwash	    None	    None	    None	    None	    None	    None	    None	    None	    None	    None	    None	    None
Hamel	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Terril	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Glencoe	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	None
L40B: Angus	    None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 
Kilkenny	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	None
Lerdal	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	None
Mazaska	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	None
L41C2: Lester, eroded	  None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 
Kilkenny, eroded	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Terril	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	None
Derrynane	  None 	None	  None 	  None 	  None 	  None 	  None 	None	  None 	  None 	  None 	None

Map symbol and component name	   January   	   February 	   March 	   April 	   May 	   June 	   July 	   August 	  September   	   October   	   November   	   December 
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L41D2:												
Lester, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Kilkenny, eroded	  None 	  None 	None	None	  None 	None	None	None	None	  None 	None	None
Terril	  None 	None	None	None	  None 	None	None	None	None	  None 	None	None
Derrynane	  None 	None	None	None	None	None	None	None	None	None	None	None
Ridgeton	None	None	None	None	None	None	None	None	None	None	None	None
L41E:	I	1	1		I		1	1		1		1
Lester	None	None	None	None	None 	None 	None	None	None	None	None 	None
Kilkenny	None	None	None	None	None	None	None	None	None	None	None	None
Terril	None	None	None	None	None	None	None	None	None	None	None	None
Derrynane	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton	None	None	None	None	None	None	None	None	None	None	None	None
L48A:	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
Derrynane,	I				I							
overwash	None	None	None	None	None	None	None	None	None	None	None	None
Derrynane	  None 	  None	  None	  None	  None 	  None 	  None	  None	  None	  None 	  None 	  None
Glencoe	  None 	  None 	None	None	  None 	None	None	None	None	None	None	None
Terril	None	  None	None	None	  None 	None	None	None	None	None	None	  None 
L49A:	i	i	i	i	i	İ	i	i	i	i	İ	i
Klossner,	ĺ	j	Ì	İ	ĺ	İ	Ì	Ì	İ	ĺ	İ	ĺ
surface drained	None	None	None	None	None	None	None	None	None	None	None	None
Klossner,	İ	İ	İ	İ	İ	į	İ	İ	İ	İ	į	İ
drained	None	None	None	None	None	None	None	None	None	None	None	None
Mineral soil,	! 				! 					! 	 	
drained	None	  None	None	None	  None 	None	None	None	None	None	None	None
L50A:	İ	<u> </u>			İ					<u> </u>		
Houghton,		1	1		I		1	1		I		
surface drained	None	None	None	None	None 	None 	None	None	None	None	None 	None

Table 18.--Flooding Frequency and Duration--Continued

Table 18.--Flooding Frequency and Duration--Continued

Map symbol and	   January 	   February 	   March 	   April 	   May 	   June 	   July 	   August 	  September 	   October 	   November 	   December 
component name				1					1			
		I	Ī	Ī	Ī	Ī	I	I	Ī	I	I	I
L50A:	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
Muskego, surface	İ	İ	İ	İ	İ	į	į	İ	İ	İ	j	İ
drained	None	None	None	None	None	None	None	None	None	None	None	None
				[	[				[	[		[
Klossner,					[					[		
drained	None	None	None	None	None	None	None	None	None	None	None	None
	!	!		!	!	ļ	ļ	!	!	!	!	!
Mineral soil,		1										
drained	None	None	None	None	None	None	None	None	None	None	None	None
L51C2:			1	1	1			 	1	1		1
Gladek, eroded	None	None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None
Gladek, eloded	I	I	I	I	I	I	I	None	I	I	None	I
Barrington	None	  None	None	None	  None	None	None	  None	None	  None	  None	  None
Dall ingcon	I	I			I			I		I	l .	
Lester, eroded	None	None	None	None	None	None	None	None	None	None	None	None
,		i			İ					İ		İ
Madelia	None	None	None	None	None	None	None	None	None	None	None	None
	İ	İ	İ	İ	İ	į	į	İ	İ	İ	j	İ
L56A:	İ	Ì	İ	İ	ĺ	İ	İ	ĺ	İ	ĺ	ĺ	ĺ
Muskego,				[	[				[	[		[
frequently				1	I				1	I		I
flooded	None	None	Frequent	Frequent	Frequent	Frequent	Occasional	None	None	None	None	None
		!	Long	Long	Long	Brief	Brief	!	!	!	!	!
	ļ	ļ		!	!	ļ			!	!	!	!
Klossner,		!		!	!	!	1	l	!	!		!
frequently	l Name		   Emanuant	   <del>                                   </del>		 			  None			
flooded	None	None	Frequent   Long	Frequent   Long	Frequent   Long	Frequent   Brief	Occasional Brief	None	None	None	None	None
	I I	1	l rond	Long	l rond	l prier	l prier	l I	I I	l I	l I	l I
Suckercreek,	l I				 			 		 	! !	 
frequently	l I	i	I I	! 	! !	i i	i i	I I	! 	! !	I I	i I
flooded	None	None	Frequent	Frequent	Frequent	Frequent	Occasional	  None	None	None	None	None
			Long	Long	Long	Long	Brief					
	İ	i	i	i	i	i	i	İ	i	i	İ	i
L57A:	İ	İ	İ	İ	İ	į	į	İ	İ	İ	j	İ
Medo, drained	None	None	None	None	None	None	None	None	None	None	None	None
		1		1	1	1		l	1	1	l	1
Mineral soil,				[	1				[	1		1
drained	None	None	None	None	None	None	None	None	None	None	None	None
		1	]		[					[		
Houghton,		!	!	!	!	!	!	!	!	!	!	!
drained	None	None	None	None	None	None	None	None	None	None	None	None
	1	1		ļ .	I	I	I	l	ļ .	I		
L63A:	None	None	None	None	None	None	None	None	  None	None	  None	None
Klossner	INOTIE	None	INOTIE	None	None	None	None	None	INOTIE	None	INOTTE	None
	I	1	I	I	I	1	I	I	I	I	I	1

Map symbol and component name	   January 	   February 	   March 	   April 	   May 	   June 	   July 	   August 	  September 	   October 	   November 	   December 
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L63A:	i	İ	i	i	i	i	i	i	i	i	i	i
Lura	None	None	None	None	None	None	None	None	None	None	None	None
	j	İ	į	İ	İ	İ	İ	İ	İ	İ	į	İ
Brownton	None	None	None	None	None	None	None	None	None	None	None	None
					1				I	1		I
L64A:					[					[		[
Tadkee	None	None	None	None	None	None	None	None	None	None	None	None
m - 21			1		!	!	!		!	!	!	!
Tadkee, depressional	None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None
depressional	None	I	I	None	I	I	I	I	I	I	I	I
Better drained	! !	I I		! !				! !	 			 
soil	  None	None	None	None	None	None	None	None	None	None	None	None
Granby	None	None	None	None	None	None	None	None	None	None	None	None
	ĺ	İ	İ	ĺ	İ	İ	İ	ĺ	ĺ	İ	İ	ĺ
Less sandy soil	None	None	None	None	None	None	None	None	None	None	None	None
									[			
L73A:	!		!	!	!	!	!	!	!	!	!	!
Blue Earth	None	None	None	None	None	None	None	None	None	None	None	None
D-11												
Belleville	None	None	None	None	None	None	None	None	None	None	None	None
Canisteo	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	None	  None
Canibceo	140116			None				None	None			None
L74A:	i	İ	i	i	i	i	i	i	i	i	i	i
Estherville	None	None	None	None	None	None	None	None	None	None	None	None
	j	İ	į	İ	İ	İ	İ	İ	İ	İ	į	İ
Hawick	None	None	None	None	None	None	None	None	None	None	None	None
					1				I	1		I
Biscay	None	None	None	None	None	None	None	None	None	None	None	None
	<u> </u>	ļ	ļ	!	!	ļ	ļ	!	!	!	ļ	!
L75B:												
Barrington	None	None	None	None	None	None	None	None	None	None	None	None
Gladek	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None
Glader	None	I	I	I	None	I	I	I	None	None	I	I
Madelia	  None	None	None	None	None	None	None	None	None	None	None	None
	İ			İ				İ	İ			İ
L76B:	İ	İ	į	İ	İ	İ	İ	İ	İ	İ	İ	İ
Dickinson	None	None	None	None	None	None	None	None	None	None	None	None
	l		1		1	1	1		1	1	1	I
Litchfield	None	None	None	None	None	None	None	None	None	None	None	None
	!	ļ .	İ	!	ļ.	ļ.	ļ.	!	ļ.	ļ.	ļ.	ļ.
Darfur	None	None	None	None	None	None	None	None	None	None	None	None
01 ami am		   None										
Clarion	NOME	None	None	None	None	None	None	None	None	None	None	None
	I	I	1	I	I	I	I	I	I	I	I	I

Table 18.--Flooding Frequency and Duration--Continued

Table 18.--Flooding Frequency and Duration--Continued

Map symbol and component name	   January 	   February   	   March 	   April 	   May 	   June 	   July 	   August 	  September   	   October   	   November   	   December 
	l			I	I	I	1	1	I	l	I	I
L77A:	ĺ	İ	İ	İ	ĺ	ĺ	į	İ	ĺ	ĺ	İ	ĺ
Brownton	None	None	None	None	None	None	None	None	None	None	None	None
Marna	None	None	None	None	None	None	None	None	None	None	None	None
Lura	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None 	  None	  None 
L78A:	! 	I I	I I	! 	! !	! !	i i	i i	! !	I I	i i	i I
Canisteo	l None	None	None	None	None	None	None	None	None	  None	None	None
Crippin	None	None	None	None	None	None	None	None	None	None	None	None
	İ	İ	İ	i	į	į	į	į	į	İ	į	İ
Glencoe	None	None	None	None	None	None	None	None	None	None	None	None
				1	1	1						1
Canisteo,					[	[						[
depressional	None	None	None	None	None	None	None	None	None	None	None	None
Harps	None	None	None	None	None	None	None	None	None	None	None	None
				!	!	!	ļ	ļ	!	!	ļ	!
Webster	None	None	None	None	None	None	None	None	None	None	None	None
L79B:	l i	l i	l i	I I	 	 	1	I I	 	 	1	 
Clarion	l None	None	  None	  None	  None	  None	None	  None	  None	  None	  None	  None
CIGIION	None	I	I		None	None			None	None		I
Clarion, eroded	  None	None	None	None	None	None	None	None	None	  None	None	None
,												
Nicollet	None	None	None	None	None	None	None	None	None	None	None	None
	İ	İ	İ	i	į	į	į	į	į	İ	į	İ
Webster	None	None	None	None	None	None	None	None	None	None	None	None
				1	1	1						1
L80C2:				[	1	1						1
Lester, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Terril	None	None	None	None	None	None	None	None	None	None	None	None
Hamel	None	None	None	None	None	None	None	None	None	None	None	None
Reedslake	None	None	None	None	None	None	None	None	None	None	None	None
Ctondon onodod	None	None	Mone	None	None	None	None	None	None	  None	None	  None
Storden, eroded	   14011 <b>6</b>	None	None	None	None	None	None	None	None	None	None	None
L80D2:	! 	i i	i i		<u> </u>	<u> </u>	1	1	<u> </u>	i I		i I
Lester, eroded	   None	  None	  None	None	  None	  None	None	None	  None	  None	None	  None
	 				<del></del>	 				<b></b>		
Ridgeton	None	None	None	None	None	None	None	None	None	None	None	None
-	i	İ	İ	i	i	i	i	i	i	i	i	i

Map symbol and component name	   January   	   February   	   March   	   April   	   May 	   June 	   July 	   August   	  September   	   October   	   November   	   December   
	İ	Ì	Ī	Ī	İ	İ	İ	Ī	Ī	İ	İ	İ
L80D2:	İ	İ	i	i	i	İ	i	i	i	i	i	İ
Storden, eroded	None	None	None	None	None	None	None	None	None	None	None	None
	l			1		l	1	1	1		1	l
Terril	None	None	None	None	None	None	None	None	None	None	None	None
	!		!	!	!	!	!	!	!	!	!	!
Hamel	None	None	None	None	None	None	None	None	None	None	None	None
L81A:												
Cordova	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None
COIdOVa	None	None	None	None	None	None	None	None	None	None	None	None
Le Sueur	  None	None	None	None	None	None	None	None	None	None	None	None
	İ	İ		İ	İ	İ	İ	İ	İ	İ	İ	İ
Rolfe	None	None	None	None	None	None	None	None	None	None	None	None
				[			[	[	[		[	
L82A:							[				[	
Marna	None	None	None	None	None	None	None	None	None	None	None	None
Barah and		 										
Barbert	None	None	None	None	None	None	None	None	None	None	None	None
Guckeen	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None
ducitodii	l .			l l	l l	l .	l l	l l	l l	l .	l l	l .
L83A:	i	İ	i	i	i	i	i	i	i	i	i	i
Webster	None	None	None	None	None	None	None	None	None	None	None	None
	l			1		l	1	1	1		1	l
Glencoe	None	None	None	None	None	None	None	None	None	None	None	None
	!	ļ	!	ļ	!	!	!	ļ	ļ	!	!	!
Canisteo	None	None	None	None	None	None	None	None	None	None	None	None
Nicollet	None	None	None	None	None	None	None	None	None	None	None	None
NICOITEC	None	None	None	None	None	None	None	None	None	None	None	None
L84A:	! I			i	i	! I	i	i	i	i	i	! I
Glencoe	None	None	None	None	None	None	None	None	None	None	None	None
	İ	İ	i	į	į	İ	į	į	į	į	į	İ
Very poorly	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
drained muck	None	None	None	None	None	None	None	None	None	None	None	None
							[				[	
Canisteo	None	None	None	None	None	None	None	None	None	None	None	None
Harps	None	None	None	None	None	None	None	None	None	None	None	None
L85A:	l I	I I	I I	 	 	l I	 	l I	 	 	 	l I
Nicollet	  None	None	None	  None	  None	  None	  None	  None	  None	  None	  None	  None
Clarion	None	None	None	None	None	None	None	None	None	None	None	None
	İ	İ	i	i	İ	İ	i	i	i	į	i	İ
Webster	None	None	None	None	None	None	None	None	None	None	None	None
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Table 18.--Flooding Frequency and Duration--Continued

Table 18.--Flooding Frequency and Duration--Continued

Map symbol and component name	   January   	   February   	   March 	   April 	   May 	   June 	   July 	   August 	  September 	   October 	   November 	   December 
L86A:	  -	 	 	 	  -	  -	 	  -	 	  -	 	 
Madelia	None	None	None	None 	None 	None	None 	None 	None 	None 	None	None 
Okoboji	  None 	  None 	None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Spicer	  None 	None	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Kingston	  None 	None	None	  None 	  None 	  None 	None	  None 	None	  None 	None	  None 
L87A:	ļ	Į.	Į.	Į.	ļ	ļ	ļ	ļ	l	ļ	[	ļ
Kingston	None 	None	None	None	None 	None	None 	None 	None 	None 	None	None 
Truman	  None 	  None 	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Madelia	  None 	None	None	  None 	None	  None 	None	  None 	None	None	None	  None 
L88A:	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	İ	ĺ	İ	ĺ	İ	İ
Lura	None	None	None	None	None	None	None	None	None	None	None	None
Brownton	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Organic soil	  None 	None	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
L89A:	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
Guckeen	None	None	None	None	None	None	None	None	None	None	None	None
Marna	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Clarion clay	İ	i	i	i	İ	İ	İ	İ	i I	İ	i	İ
loam	None	None	None	None	None	None	None	None	  None 	None	None	None
L90A:	ļ	İ	İ	ļ.	ļ	ļ	ļ	ļ.		ļ	ļ.	ļ
Le Sueur	None	None	None	None	None	None	None	None	None	None	None	None
Cordova	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Reedslake	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
L91A:	į	i	i	İ	į	į	j	İ	İ	į	İ	İ
Mazaska	None	None	None	None	None	None	None	None	None	None	None	None
Lerdal	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Rolfe	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 

Map symbol and component name	   January 	   February   	   March 	   April 	   May 	   June 	   July 	   August   	  September 	   October   	   November 	   December 
		ļ	ļ	ļ	ļ		ļ	ļ	ļ	ļ	ļ	ļ
L92A: Darfur	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None
	İ	į	į	į	į	İ	į	į	į	į	į	į
Fieldon	None 	None 	None 	None 	None 	None 	None 	None 	None	None 	None 	None 
Litchfield	None	None	None	None	None	None	None	None	None	None	None	None
Webster	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Dassel	  None	None	None	None	  None	  None	None	None	None	None	None	None
L93A:	 		! 	! 	 	 		 	 	 		! 
Muskego	None	None	None	None	None	None	None	None	None	None	None	None
Blue Earth	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Mineral soil,	İ	İ	İ	İ	İ	İ	İ	į	İ	İ	İ	İ
drained	None	None	None	None	None	None	None	None	None	None	None	None
Belleville	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
L94A:	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
Lowlein	None 	None	None	None	None 	None 	None	None	None	None	None	None
Linder	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Dickinson	None	None	None	None	None	None	None	None	None	None	None	None
Darfur	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
L95E:		i	İ	İ	İ		i	<u> </u>	i	İ	i	İ
Hawick	None	None	None	None	None	None	None	None	None	None	None	None
Estherville	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Tomall	None	None	None	None	None	None	None	None	None	None	None	None
L96B:	! 	 	! 	! 	 	! 	 	 	 	 	 	 
Estherville	None	None	None	None	None	None	None	None	None	None	None	None
Hawick	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Tomall	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None
Biscay	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 

Table 18.--Flooding Frequency and Duration--Continued

Table 18.--Flooding Frequency and Duration--Continued

Map symbol and component name	   January 	   February   	   March 	   April 	   May 	   June 	   July 	   August 	  September   	   October   	   November   	   December   
		ļ į	[	ļ.	[	ļ.	!	[	<u> </u>	ļ.	[	ļ.
L97C: Hawick	  None 	None	  None	  None	  None	  None	  None 	  None	  None 	  None	  None	  None
Estherville	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Tomall	  None 	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
L98A: Crippin	  None	  None	  None	  None	  None	  None 	  None	  None	  None 	  None 	  None	  None 
Nicollet	  None 	None	  None 	  None 	None	  None 	  None 	None	  None 	  None 	  None 	  None 
Canisteo	  None 	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Clarion	  None 	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
L99B: Clarion	  None 	  None	  None	  None 	  None 	  None 	  None 	  None	    None 	    None 	  None	  None 
Swanlake	  None 	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Nicollet	  None 	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Webster	  None 	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
L100B: Clarion	  None	  None	    None	    None	    None	    None	  None	    None	    None	    None	    None	    None
Estherville	  None 	  None	  None 	  None 	None	  None 	  None 	None	  None 	  None 	  None 	  None 
Lowlein	  None 	  None	  None 	  None 	  None	  None 	  None 	  None 	  None 	  None 	  None	  None
Nicollet	  None 	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Swanlake	  None 	None	None	  None 	  None 	  None 	  None 	None	  None 	  None 	  None	  None 
Webster	  None 	None	None	  None 	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 
L101C2: Omsrud, eroded	    None	  None	    None	    None	    None	    None	    None	    None	    None	    None	    None	    None
Hawick	  None 	None	  None	  None 	  None	  None 	  None 	  None	  None 	  None 	  None	  None 
Storden, eroded	  None 	  None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Delft	  None 	  None	  None	  None 	  None	  None 	  None 	  None	  None 	  None 	  None	  None 
Terril	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
	-	-	-	•	•		-	-	-		-	

Map symbol and component name												
	January	February	March	April	May	June	July	August	September	October	November	December
L101D2: Omsrud, eroded	    None	    None	    None	    None	    None	    None	    None	    None	    None	    None	    None	    None
Hawick	None	  None	  None	  None	None	None	  None	None	  None	  None	  None	None
Storden, eroded												
	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton												
	None	None	None	None	None	None	None	None	None	None	None	None
Delft												
	None	None	None	None	None	None	None	None	None	None	None	None
Terril												
	None	None	None	None	None	None	None	None	None	None	None	None
L102C2: Omsrud, eroded	    None 	    None 	    None 	    None 	    None 	    None 	    None 	    None 				
Storden, eroded												
	None	None	None	None	None	None	None	None	None	None	None	None
Omsrud												
	None	None	None	None	None	None	None	None	None	None	None	None
Terril												
	None	None	None	None	None	None	None	None	None	None	None	None
Delft												
	None	None	None	None	None	None	None	None	None	None	None	None
L102D2: Omsrud, eroded	None	    None	    None	    None	    None	None	    None	    None	    None	    None	    None	    None
	İ	İ			İ				į	į	į	
Storden, eroded	None 	None	None 	None 	None 	None 	None 	None 	None 	None 	None 	None 
Omsrud	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton												
	None	None	None	None	None	None	None	None	None	None	None	None
Delft	  None 	  None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Terril												
	None	None	None	None	None	None	None	None	None	None	None	None
L103A:	 		 	 	 	 	 	 	 	 	 	 
Fieldon	None 	None	None	None	None 	None 	None	None 	None	None	None	None 
Canisteo												
	None	None	None	None	None	None	None	None	None	None	None	None
Darfur												
	None	None	None	None	None	None	None	None	None	None	None	None
Glencoe												
	None	None	None	None	None	None	None	None	None	None	None	None

Table 18.--Flooding Frequency and Duration--Continued

Table 18.--Flooding Frequency and Duration--Continued

Map symbol and component name	   January   	   February 	   March 	   April 	   May 	   June 	   July 	   August   	  September   	   October   	   November   	   December   
	I			l	I	l	l		l	I	I	
L105C2:	ļ.			!	ļ.	!	<u> </u>	!	!	ļ.	ļ.	ļ
Lester, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Hawick	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Terril	  None 	None	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Hame1	  None 	None	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Storden, eroded	None	None	None	None	None	  None 	  None 	  None 	  None 	None	None	None
L105D2:	I						l			I		I
Lester, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Hawick	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Ridgeton	  None 	None	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Hamel	None	None	None	  None 	None	  None 	None	  None 	None	None	None	None
Storden, eroded	None	None	None	None	None	None	  None 	None	None	None	None	None
Terril	None	None	None	None	None	None	None	None	None	None	None	None
L106C2:												
Lester, eroded	None 	None	None	None	None	None	None	None	None	None	None	None
Storden, eroded	  None 	None	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Terril	None	None	None	  None 	None	  None 	None	  None 	None	None	None	None
Hamel	None	None	None	None	None	None	None	None	None	None	None	None
Reedslake	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
L106D2:	i	İ	İ	i	i	i I	i I	İ	i I	i	i	 
Lester, eroded	None	None	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	None
Storden, eroded	None	None	None	  None 	None	  None 	None	  None 	None	None	None	None
Ridgeton	None	None	None	  None 	None	  None 	  None 	  None 	  None 	None	None	None
Terril	None 	None	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	None
Hamel	None	None	None	None	None	None 	None 	None 	None 	None 	None	None

Map symbol and component name	   January 	   February   	   March 	   April 	   May 	   June 	   July 	   August 	  September   	   October 	   November 	   December 
	ļ	ļ	ļ	ļ	ļ	ļ	ļ	ļ	ļ	ļ	ļ	ļ
L107A: Canisteo	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None
				İ					İ			
Glencoe	None	None	None	None	None	None	None	None	None	None	None	None
Harps	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Canisteo,	ĺ	į	į	į	ĺ	ĺ	į	į	į	ĺ	į	ĺ
depressional	None	None	None	None	None	None	None	None	None	None	None	None
Crippin	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
L108A:	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
Cordova	None	None	None	None	None	None	None	None	None	None	None	None
Rolfe	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Le Sueur	None	None	None	None	None	None	None	None	None	None	None	None
L109A:	 	 	 	 	 	 	 	 	 	 	 	 
Marna	None	None	None	None	None	None	None	None	None	None	None	None
Barbert	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None
Guckeen	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
L110E:	İ	į	İ	İ	İ	İ	į	İ	İ	İ	j	İ
Lester	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Cokato	None	None	None	None	None	None	None	None	None	None	None	None
Belview	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Hamel	None	None	None	  None	None	None	None	  None	  None	None	None	None
Terril	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
L110F:	İ	İ	İ	İ	j	İ	İ	İ	İ	j	İ	İ
Lester	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Cokato	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 

Table 18.--Flooding Frequency and Duration--Continued

Table 18.--Flooding Frequency and Duration--Continued

Map symbol and component name	   January   	   February 	   March 	   April 	   May 	   June 	   July 	   August 	  September 	   October 	   November 	   December 
COMPONENT NAME	<u> </u>		1	I	I	1		<u> </u>	I	I		1
L110F:	<u> </u>	1	i		i			İ	i	i		<u> </u>
Belview	None	None	None	None	None	None	None	None	None	None	None	None
	İ	İ	İ	į	j	İ	į	İ	İ	İ	į	İ
Terril	None	None	None	None	None	None	None	None	None	None	None	None
Hamel	None	None	None	None	None	None	None	None	None	None	None	None
L111A:	İ	İ	İ	į	İ	İ	İ	İ	İ	İ	İ	İ
Nicollet	None	None	None	None	None	None	None	None	None	None	None	None
	1	]		1		[	[		[	I	[	1
Clarion	None	None	None	None	None	None	None	None	None	None	None	None
Webster	  None 	  None	  None	  None 	  None 	  None 	  None 	  None	  None 	  None 	  None 	  None 
L112A:					! !	l I	l I	I I	I I	l I	l I	
Webster	None	None	None	None	None	None	None	None	None	None	None	None
	i	i	i	i	i	i	İ	İ	i	i	İ	i
Glencoe	None	None	None	None	None	None	None	None	None	None	None	None
Nicollet	None	None	None	None	  None 	None	None	None	None	None	None	None
L113B:	İ	İ	Ì	İ	ĺ	ĺ	İ	İ	ĺ	ĺ	İ	İ
Reedslake	None	None	None	None	None	None	None	None	None	None	None	None
Le Sueur	None	None	None	None	None	None	None	None	None	None	None	None
Reedslake,	İ	İ	İ	İ	İ	İ	İ	j	İ	İ	İ	İ
eroded	None	None	None	None	None	None	None	None	None	None	None	None
Cordova	  None	None	None	  None	  None	  None	  None	  None	  None	  None	  None	  None
	ļ	ļ	ļ		!	!	ļ		!	!	ļ	ļ
L114A:												
Hanlon, rarely flooded	None	None	Rare	  Rare	  Rare	  Rare	None	None	  None	  None	  None	  None
1100464		I	Very	Very	Very	Very	I	I	None	None	I	
	i	i	brief	brief	brief	brief	i	i	i	i	i	i
	i	i	İ		İ	İ	İ	İ	i	i	İ	i
Coland,	İ	İ	İ	į	İ	İ	İ	İ	İ	İ	İ	İ
occasionally	1	1	1			1			1	1		1
flooded	None	None		Occasional		•	!	!	None	None	None	None
	!	!	Brief	Brief	Brief	Brief	Very	Very	!	!		!
	I	1	Į.	I	I	I	brief	brief	I	I	1	I
Winness	1	1	I	1	 	1	1	1	1	1	1	1
Minneopa, rarely flooded	•	  None	Rare	  Rare	  Rare	  Rare	None	None	  None	  None	None	  None
1100060		140116	Very	Very	Very	Very			12.0116	12.0116		
	i	i	brief	brief	brief	brief	i	i	i	i	i	i
	į	i	i	i	i	i	İ	j	i	i	İ	į

Map symbol and component name	   January   	   February   	   March   	   April 	   May   	   June 	   July 	   August   	  September   	   October   	   November   	   December   
	i	i	i	i	i	i	i	I	I	I	i	i
L115A:	i	i	i	i	i	i	İ	i İ	i İ	i I	i	İ
Brownton	None	None	None	None	None	None	None	None	None	None	None	None
				İ		İ				İ	İ	
Lura	  None 	None	None	None	None	  None 	None	  None 	  None 	  None 	  None 	  None 
Marna	  None 	None	None	None	None	None	None	  None 	  None 	  None 	None	  None 
L116A:	i	i	i	i	i	i	İ	İ	İ	İ	i	i
Le Sueur	  None 	None	None	None	  None 	  None 	None	None	  None 	None	None	  None 
Lerdal	  None 	None	None	None	None	  None	None	  None 	  None 	  None 	  None	  None 
Mazaska	  None 	None	  None	  None	  None	  None	None	  None 	  None 	  None 	  None	  None 
Kilkenny	  None 	None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
L117C2:	i	i	i	i	i	i	İ	i İ	i İ	i I	i	İ
Omsrud, eroded	  None 	None	None	  None 	  None 	  None 	None	  None 	  None 	  None 	  None 	  None 
Omsrud	  None 	None	None	  None 	None	  None 	None	  None 	  None 	  None 	  None 	  None 
Terril	  None 	None	None	  None 	None	  None 	None	  None 	  None 	  None 	  None 	  None 
Delft	  None 	None	  None 	  None 	  None 	  None 	None	  None 	  None 	  None 	  None 	  None 
Storden, eroded	  None 	None	None	  None 	None	  None 	None	  None 	  None 	  None 	  None 	  None 
L118A: Rushriver, frequently flooded	      None	      None	: -	      Frequent	      Frequent	! -	      Occasional	•	      None	      None	        None	      None
			Long	Long	Long	Long	Brief	Brief				
Houghton, frequently	   	   	   	   	   	   	   	   	   	   	   	   
flooded	None   	None 	Frequent   Long	Frequent   Long 	Frequent   Long 	Frequent   Long 	Occasional Brief	Occasional   Brief	None   	None   	None   	None   
Klossner, frequently	   		   	   	   	   	 	!   	!   	   	   	   
flooded	  None	  None	  Frequent	  Frequent	  Frequent	  Frequent	  Occasional	  Occasional	   None	  None	  None	  None
			Long	Long	Long	Long	Brief	Brief				
Medo, frequently	I I	I I	I I	I I	I I	I I	I I	I I	I I	I I	I I	I I
flooded	•	  None	  Frequent	  Frequent	  Frequent	  Frequent	  Occasional	l  Oggagional	l None	  None	  None	  None
		    none	Long	Long	Long	Long	Brief	Brief	    140116	  -  140116	 	
	I	I	I	I	I	I	I	I	I	I	I	I

Table 18.--Flooding Frequency and Duration--Continued

Table 18.--Flooding Frequency and Duration--Continued

Map symbol	   January	   February	   March	   April	   May	   June	   July	   August	  September	   October	   November	December
and				1								
component name		<u> </u>		<u> </u>								
				[								
L119B:				[								
Angus	None	None	None	None	None	None	None	None	None	None	None	None
				[								
Angus, eroded	None	None	None	None	None	None	None	None	None	None	None	None
				[								
Cordova	None	None	None	None	None	None	None	None	None	None	None	None
				[								
Le Sueur	None	None	None	None	None	None	None	None	None	None	None	None
				[								
L120A:				[								
Good Thunder	None	None	None	None	None	None	None	None	None	None	None	None
				1								
Ocheyedan	None	None	None	None	None	None	None	None	None	None	None	None
	ĺ	İ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ
Minnetonka	None	None	None	None	None	None	None	None	None	None	None	None
	ĺ	İ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ
L121B:	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
Clarion	None	None	None	None	None	None	None	None	None	None	None	None
	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
Guckeen	None	None	None	None	None	None	None	None	None	None	None	None
	İ	į	İ	į	İ	İ	İ	İ	İ	į	İ	İ
Marna	None	None	None	None	None	None	None	None	None	None	None	None
	İ	i	i	i	İ	İ	i	İ	İ	i	i	İ
L122B:	İ	į	i	i	İ	İ	İ	İ	İ	i	İ	İ
Reedslake	None	None	None	None	None	None	None	None	None	None	None	None
	İ	i	i	i	İ	İ	i	İ	İ	i	i	İ
Estherville	None	None	None	None	None	None	None	None	None	None	None	None
	İ	i	i	i	İ	İ	i	İ	İ	i	i	İ
Le Sueur	None	None	None	None	None	None	None	None	None	None	None	None
				I	İ							
Cordova	None	None	None	None	None	None	None	None	None	None	None	None
				I								
Lowlein	None	None	None	None	None	None	None	None	None	None	None	None
	 				 		 	 	I		 	 
L123A:		i	i	i	i		i	i	i	i	i	
Belleville	None	None	None	None	None	None	None	None	None	None	None	None
				I								
Granby	None	None	None	None	None	None	None	None	None	None	None	None
•				I								
L124A:		i	i	i	i		i	i	i	i	i	
Glencoe mucky	İ	i	i	i	i	İ	i	İ	İ	i	i	İ
clay loam	None	None	None	None	None	None	None	None	None	None	None	None
		i	İ	İ	İ		İ	İ	i .	İ	İ	
Canisteo	None	None	None	None	  None	  None	None	  None	  None	None	None	  None
Glencoe clay	İ	i	i	i	i	İ	i	İ	İ	i	i	İ
loam	None	None	  None	None	  None	  None	  None	  None	  None	None	  None	  None
					<b></b>				<b></b>			
	'	•	'	•	1	1	1	1	1	'	1	1

Map symbol and component name	   January   	   February 	   March   	   April   	   May 	   June 	   July   	   August   	  September   	   October   	   November   	   December   
	İ	Ì	Ī	Ī	İ	İ	Ì	Ì	İ	Ì	Ī	İ
L125A: Hanlon, rarely	 	į į	i I	i I	i I	i I	i I	i I	i I	i I	i I	i I
flooded	None	None	Rare	Rare	Rare	Rare	None	None	None	None	None	None
			Very	Very	Very	Very			[			
	I		brief	brief	brief	brief			I			
	ļ	!	!	ļ	!	ļ	ļ	ļ	ļ		!	!
Coland,	!	ļ	ļ	!			ļ		!	ļ	ļ	!
occasionally	!	!		!					!	ļ.	!	ļ.
flooded	None	None	•	•		•	•	Occasional	None	None	None	None
	!	!	Brief	Brief	Brief	Brief	Very	Very	!	!	!	!
	!	!	!	!	!	!	brief	brief	!	ļ.	ļ	ļ
***************************************	!		ļ	!	ļ		1		!		!	!
Minneopa, rarely	•		I Danie	   Danie	   Danie	 			 			
flooded	None	None	Rare	Rare	Rare	Rare	None	None	None	None	None	None
			Very   brief	Very   brief	Very   brief	Very   brief						1
	 	l i	Driei	Driei	Drier	Driei	l i	l i	1	I I	1	1
L126A:				!	 	 	I I	 		i i		
Coland,	! !	1		l I	! !	I I			l I		 	
occasionally	! !			 	! !	 	l I		 	i		
flooded	None	None	  Occasional	  Occasional	  Occasional	  Occasional	  Occasional	Occasional	None	None	None	None
1100000	I		Brief	Brief	Brief	Brief	Very	Very	1	1	1	1
	i	ł	l DIICI	1	l Direi	51101	brief	brief	i	i	;	i
	i	i	i	i	İ	i	22202	22202	i	i	i	i
Minneopa,	i	i	i	i	i	i	İ	i	i	i	i	i
occasionally	i	i	i	i	i	i	İ	İ	i	i	i	i
flooded	None	None	Rare	Rare	Rare	Rare	None	None	None	None	None	None
	İ	İ	Very	Very	Very	Very	İ	İ	į	i	į	i
	į	i	brief	brief	brief	brief	İ	İ	İ	i	į	į
	ĺ	İ	ĺ	ĺ	ĺ	ĺ	İ	Ì	ĺ	İ	İ	İ
Havelock,				[		[			[			
occasionally				[		[			[			
flooded	None	None	Occasional	Occasional	Occasional	Occasional	Occasional	Occasional	None	None	None	None
	[		Brief	Brief	Brief	Brief	Very	Very	[			
	1			1		[	brief	brief	1			
	I	!	ļ	I	I	I	!	ļ	I	1	I	1
Spillville,	ļ.	1	1	Į.	[	[	]	]	[	1	1	1
occasionally	ļ.	1	1	Į.	[	[	]	]	[	1	1	1
flooded	None	None	:	:	:		:	Occasional	None	None	None	None
	Į.	İ	Very	Very	Very	Very	Very	Very	I	1	Į.	Į.
	ļ.	ļ	brief	brief	brief	brief	brief	brief	ļ.	ļ.	ļ.	İ
				[		[						

Table 18.--Flooding Frequency and Duration--Continued

Table 18.--Flooding Frequency and Duration--Continued

Map symbol and component name	   January 	   February 	   March 	   April 	   May 	   June 	   July 	   August 	  September   	   October 	   November 	   December 
	I	I	1	I	I	I	I	I	I	I	I	I
L127A: Coland, frequently	     	 	     	     	     	     	     	     	     	     	     	     
flooded	  None 	  None 	Frequent   Long	  Frequent   Long 	  Frequent   Long	  Frequent   Long 	  Occasional   Brief	  Occasional   Brief	  None 	  None 	  None 	  None 
Minneopa, occasionally	;   	;   	i I	   	 	   	;   	   	   	;   	   	;   
flooded	None   	None   	Rare   Very   brief	Rare   Very   brief	Rare   Very   brief	Rare   Very   brief	None    -	None   	None   	None   	None   	None    -
Havelock, frequently	   	   	 	   	   	   	   	   	   	   	   	   
flooded	  None 	  None 	  Frequent   Long	  Frequent   Long	  Frequent   Long	  Frequent   Long	  Occasional   Brief	  Occasional   Brief	  None 	  None 	  None 	  None 
Spillville, occasionally	!   	   	 	   	   	!   	!   	   	   	!   	!   	   
flooded	  None   	  None   	Occasional Very brief	Occasional Very brief	Occasional Very brief	  Occasional   Very   brief	  Occasional   Very   brief	  Occasional   Very   brief	  None   	  None   	  None   	  None   
L128A:		!	i i	l I	l I	! !	! !	l I	l I		! !	
Mazaska	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Rolfe	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Lerdal	None	None	None	None	None	  None 	  None 	None	None	None	  None 	  None 
L129B:	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
Terril	None 	None 	None	None 	None 	None 	None 	None 	None 	None 	None 	None 
Delft	None	None	None	None	None	None	None	None	None	None	None	None
Hamel	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None	  None
L130A: Okoboji mucky silty clay loam	      None	      None	      None	      None	      None	      None	      None	      None	      None	      None	      None	      None
Obshadi131												
Okoboji silty clay loam	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Brownton	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 
Spicer	None	None	None	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 	  None 

Soil
Sur
√e/
<u>ò</u>

		I	I	l	I	l	I	I	I	I	I	l
Map symbol	January	February	March	April	May	June	July	August	September	October	November	December
and		[					[		[			
component name	L	L	L	L	<u> </u>	L	L	L	L	L	L	L
		I	l	l	l		I		I	I	l	
M-W.		I					I		1	1		
Water,		1					1		1			
miscellaneous		[					[		[			
		[					[		[			
U3B:		[					[		[			
Udorthents (cut		[					[		[			
and fill land)		1					1		1			
W.												
Water		1					[		1			

Table 18.--Flooding Frequency and Duration--Continued

Table 19.--Ponding Frequency, Duration, and Depth

(Depth refers to the depth, in feet, of the water above the surface. See text for definitions of terms used in this table. Absence of an entry indicates that no estimate was made)

Map symbol and component name	   January   	   February   	   March   	   April 	   May 	June	   July 	   August   	  September   	   October   	   November   	   December   
	i	Ī	l	Ī	l		İ	Ī	Ī	Ī	Ī	i
GP: Pits, gravel.	   	 	   		   		   	 	 	 	 	    -
Udipsamments.	   	   	   		   		   	   	 	   	   	   
L5A:	l I	I I	l I	1	l I		l I	I I	I I	I I	l I	l I
Delft, overwash	None	None	None	None	None	None	None	None	None	None	None	   None
Delft	   None	None	None	None	   None	None	   None	None	None	None	None	None
Glencoe	None   	None     	  Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None   	None	None   	None     	None     	None     	None     	None     
Terril	   None	   None	   None	None	   None	None	   None	   None	   None	   None	   None	   None
L13A: Klossner,	   	   	   	   	   		   	   	   	   	   	   
drained	None   	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None   	None	None   	None     	None     	None	None     	None
Mineral soil,	l I	 	! !	1	l I		l I	 	 		 	! !
drained	None     	None       	  Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None     	None	None     	None       	None       	None       	None     	   None     
Houghton,	l I	I I	l I	1	l I		l I	I I	I I	I I	l I	l I
drained	None     	None       	  Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None   	None	None     	None       	None       	None       	None     	None     
L14A: Houghton,	   	   	   		   		   	   	   	 	   	   
drained	None     	   None     	  Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None     	None	None     	   None     	None       	   None     	   None     	   None     

Map symbol	   January	   February	   March	   April	   May	   June	   July	   August	  September	   October	   November	   December	
and component name	<u> </u> 	<u> </u>	 	 	 	 	 	 	 	 	 	 	
L14A:	 	 	 	 	 	 	 	 	 	 	 	 	
Klossner,	! 	;	i	i	i	i	i	i	i	i	i	i	
drained	None	None	Frequent	Frequent	None	None	None	None	None	None	None	None	
			Long	Brief	i	i	i	i	i	i	i	i	
	İ	į	Depth:	Depth:	į	İ	İ	İ	İ	į	į	į	
	ĺ	İ	0.5	1.0	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	
	l	ļ	ļ.	ļ.	ļ.	ļ	ļ	ļ.	ļ.	ļ.	ļ.	ļ.	
Mineral soil,			<u> </u>	ļ									
drained	None	None	Frequent	Frequent	None	None	None	None	None	None	None	None	
			Long	Brief									
	l I		Depth:	Depth:									
	l I	I I	0.5	1.0	l I                 l I	İ	i I	i I	i	! 	İ	İ	İ
Klossner, ponded	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	
	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	
	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	
	2.0	2.0	3.0	3.0	3.0	2.5	1.0	0.5	1.0	2.0	2.5	2.0	
Okoboji, ponded	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	
Okoboji, polided	Very long	! -			! -				:	! -	-		
	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	
	2.0	2.0	3.0	3.0	3.0	2.5	1.0	0.5	1.0	2.0	2.5	2.0	
		ļ.	!	!	ļ.			ļ.	!	ļ.	!	ļ.	
Glencoe, ponded	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent		Frequent	Frequent	Frequent	
	Very long   Depth:	Very long   Depth:	Very long   Depth:	Very long   Depth:	Very long   Depth:	Very long   Depth:	Very long   Depth:	Very long   Depth:	Very long   Depth:	Very long   Depth:	Very long   Depth:	Very long   Depth:	
	Depth:   2.0	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	
	2.0 		3.0 	3.0 	3.0 	<b>2.</b> 5	1.0 	0.3	1.0 	2.0	2.3	2.0	
Houghton, ponded	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	
	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	
	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	
	2.0	2.0	3.0	3.0	3.0	2.5	1.0	0.5	1.0	2.0	2.5	2.0	
L16A:	 												
Muskego, ponded	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	  Frequent	
naphego, ponaca	Very long	! -			! -								
	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	
	2.0	2.0	3.0	3.0	3.0	2.5	1.0	0.5	1.0	2.0	2.5	2.0	
		I			l			I	l	l		I	
Blue Earth,	l	ļ	ļ.	ļ.	ļ.	ļ	ļ	ļ.	ļ.	ļ.	ļ.	ļ.	
ponded	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	
	Very long	! -		:	!					!		!	
	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	
	2.0	2.0	3.0	3.0	3.0	2.5	1.0	0.5	1.0	2.0	2.5	2.0	
	l	1	I	I	I	I	I	I	I	I	I	I	

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	   January   	   February   	   March 	   April 	   May 	   June 	   July 	   August 	  September 	   October   	   November 	   December 
Component name	I	ı	I	I	I	I	ı	I	I	I	I	1
L16A:	! !	! !	i I	! !	l I	I I	! !	i I	I I	! 	! !	l I
Houghton, ponded	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent
	Very long	_					_			! -	-	!
	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:
	2.0	2.0	3.0	3.0	3.0	2.5	1.0	0.5	1.0	2.0	2.5	2.0
	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	İ	ĺ	İ
Klossner, ponded	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent	Frequent
	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long	Very long
	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:	Depth:
	2.0	2.0	3.0	3.0	3.0	2.5	1.0	0.5	1.0	2.0	2.5	2.0
			[					[				
L26B:										ļ		
Shorewood	None	None	None	None	None	None	None	None	None	None	None	None
Good Thunder	None	None	None	None	None	None	None	None	None	None	None	None
**********				 					 			
Minnetonka	None	None	None	None	None	None	None	None	None	None	None	None
L36A:	I I	I I	I I	l I	l I	l I	I I	I I	l I	I I	I I	I I
Hamel, overwash	None	None	None	   None	   None	   None	None	None	   None	None	None	None
namer, Overwash	None	l None	None	l None	l None	l None	l None	None	l None	None	None	None
Hamel	None	None	None	None	   None	None	None	None	None	None	None	None
manic 1	l None	l None	l Hone	l Hone	l Morie	l None	l None	l Hone	l Hone	l None	l None	l Hone
Terril	None	None	None	None	None	None	None	None	None	None	None	None
	i	i	i	i	İ	i	i	i	i		i	
Glencoe	None	None	Frequent	Frequent	None	None	None	None	None	None	None	None
	į	į	Long	Brief	İ	İ	į	į	İ	i	į	İ
	i	i	Depth:	Depth:	i	i	i	i	i	i	i	i
	i	i	0.5	1.0	i	i	i	i	i	i	i	i
	i	i	İ	İ	i	i	i	i	i	i	i	İ
L40B:	i	i	i	i	İ	İ	i	i	İ	i	i	İ
Angus	None	None	None	None	None	None	None	None	None	None	None	None
	İ	İ	İ	İ	İ	j	İ	İ	İ	İ	İ	İ
Kilkenny	None	None	None	None	None	None	None	None	None	None	None	None
	[	[	[				[	[			[	
Lerdal	None	None	None	None	None	None	None	None	None	None	None	None
	[	[					[				[	
Mazaska	None	None	None	None	None	None	None	None	None	None	None	None
L41C2:												
Lester, eroded	None	None	None	None	None	None	None	None	None	None	None	None
										ļ		
Kilkenny, eroded	None	None	None	None	None	None	None	None	None	None	None	None
										I		!
Terril	None	None	None	None	None	None	None	None	None	None	None	None
Da	 	 	 	 	 	 	 	 	 	1 27	 	l we
Derrynane	None	None	None	None	None	None	None	None	None	None	None	None
	I	I	1	I	I	I	I	1	I	1	I	1

Map symbol and component name	   January 	   February   	   March   	   April 	   May 	   June 	   July 	   August   	  September   	   October   	   November   	   December   
		i	i	İ	i	i	İ	I	İ	I	i	i
L41D2: Lester, eroded	None	   None	     None	   None	     None	   None	     None	     None	   None	     None	     None	     None
Kilkenny, eroded	None	   None	   None	   None	   None	   None	   None	   None	   None	   None	   None	   None
Terril	   None	   None 	   None 	   None	   None 	None	   None 	   None 	   None	   None 	   None 	   None 
Derrynane	None	None	   None 	None	None 	None	   None 	   None 	None	   None 	None 	   None 
Ridgeton	None	None	   None 	None	   None 	None	   None 	   None 	None	   None 	None	   None 
L41E: Lester	None	   None	     None	   None	     None	   None	   None	     None	   None	   None	   None	     None
Kilkenny	None	None	None 	None	None	None	   None 	None 	None	None 	None	None 
Terril	None	None	None	None	None	None	   None 	None 	None	   None 	None	None
Derrynane	None	None	   None 	None	   None 	None	   None 	   None 	None	   None 	None	   None 
Ridgeton	None	None	None	None	None	None	None	None	None	None	None	None
L48A:	ĺ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
Derrynane,	ĺ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
overwash	None	None	None	None	None	None	None	None	None	None	None	None
Derrynane	None	None	None	None	None	None	None	None	None	None	None	None
Glencoe	None	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None     	None     	None     	None     	None     	None     	None     	None     
Terril	None	None	   None 	None	None 	None	   None 	   None 	None	   None 	None 	   None 
L49A: Klossner,	 	[ [	 	 	 		 	 	 	 	 	 
surface drained	None	None     	Frequent   Long   Depth:   1.0	Frequent   Very long   Depth:   1.0	Frequent   Long   Depth:   1.0	Frequent   Brief   Depth:   0.5	None     	None     	None     	None     	None     	None

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and	   January 	   February 	   March 	   April 	   May 	   June 	   July 	   August 	  September 	   October 	   November 	   December 
component name	L	1		1	<u> </u>	1	1	L	1	l	<u> </u>	I
L49A:	I I	-	-	I I	:	-		! !	-	! !		
Klossner,	i i	i	i	i	i	i	i	i	i	i	i	i
drained	None	None	Frequent	Frequent	None	None	None	None	None	None	None	None
			Long	Brief								
	i	i	Depth:	Depth:	i	i	i	i	i	i	i	i
	j	į	0.5	1.0	İ	į	İ	İ	İ	İ	į	İ
	l	1		1	1	1	1	l		I	1	I
Mineral soil,		1	[	1	[		[		[			[
drained	None	None	Frequent	Frequent	None	None	None	None	None	None	None	None
			Long	Brief								
		1	Depth:	Depth:	!	1	!		!			
	l I		U.5	1 1.0	I I	1		l I		 	I I	 
L50A:	l I		1	1	! 	1		I I	1	! !	I I	! !
Houghton,	i	i	i	i	i	i	i	i	i	i	i	i
surface drained	None	None	Frequent	Frequent	Frequent	Frequent	None	None	None	None	None	None
	j	į	Long	Very long	Long	Brief	İ	İ	İ	İ	į	İ
			Depth:	Depth:	Depth:	Depth:						[
	ļ.	Ţ	1.0	1.0	1.0	0.5	ļ.	I	[	I	I	I
		!		ļ		!	!					
Muskego, surface drained	   None	   None	Execuent	Emaguent	Emaguent	  Emagnione	   None	   None	   None	   None	   None	   None
drained	None	None	Frequent   Long	Frequent   Very long	Frequent   Long	Frequent Brief	None	None	None	None	None	None
	! !	1	Depth:	Depth:	Depth:	Depth:	1	! !	1	 		 
	i i	i	1.0	1.0	1.0	0.5	i	i i	i	İ	i	i
	İ	i	i	i	i	i	i	i	i	i	i	i
Klossner,	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
drained	None	None	Frequent	Frequent	None	None	None	None	None	None	None	None
		1	Long	Brief	[		[		[			[
	!	ļ	Depth:	Depth:	!	ļ	ļ	!	ļ	!	ļ	!
		!	0.5	1.0	!	1	!	ļ	!	ļ	!	!
Mineral soil,	l I	I	1	I I	I I	l I	l I	l I	1	l I	I I	l I
drained	   None	None	Frequent	  Frequent	   None	   None	None	   None	None	   None	None	   None
			Long	Brief								
	i	i	Depth:	Depth:	i	i	i	i	i	i	i	i
	j	i	0.5	1.0	İ	j	İ	İ	į	j	İ	İ
	l	1		1	I	1		l	1		1	1
L51C2:	ļ.	İ	İ	ļ	!	İ	ļ	ļ.	ļ.	ļ.	ļ	ļ.
Gladek, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Barrington	   None	   None	   None	None	   None	   None	   None	   None	None	   None	   None	   None
Darrington	l Morre	Notice	Notice	None	Notice	Notice	Notice	NOTE	Notice	Notice	None	I MOTTE
Lester, eroded	None	None	None	None	None	None	None	None	None	None	None	None
-	İ	İ	į	j	į	į	İ	İ	İ	İ	İ	İ
Madelia	None	None	None	None	None	None	None	None	None	None	None	None
			1	1	1							1

Map symbol and component name	   January   	   February   	March   	   April 	   May 	   June 	   July   	August   	  September   	   October   	   November   	   December   
	İ	İ	İ	İ	ĺ	İ	ĺ	Ī	İ	ĺ	Ī	Ī
L56A: Muskego, frequently	   	   	   		   	   	   	   	   	   	   	   
flooded	None   	None     	Frequent   Long   Depth:   1.0	Frequent   Very long   Depth:   1.0	Frequent   Long   Depth:   1.0	Frequent   Brief   Depth:   0.5	None     	None       	None       	None       	None       	None       
Klossner, frequently	!   				   		   	   		   	   	ļ !
flooded	None     	None     	Frequent   Long   Depth:   1.0	Frequent   Very long   Depth:   1.0	  Frequent   Long   Depth:   1.0	Frequent   Brief   Depth:   0.5	   None     	   None     	None       	None       	None       	None       
Suckercreek, frequently	   		   		   		   	   		   	   	   
flooded	None	None	None	None	None	None	None	None	None	None	None	None
L57A:	! 			i	! 		! 					
Medo, drained	None     	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None     	None     	None       	None     	None     	None       	None     	None     
Mineral soil,	 			i	! 	i	! 			 	 	
drained	None     	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None     	None     	None       	None     	None     	None       	None     	None     
Houghton,	! 	İ		i	<u> </u>	i	İ			<u> </u>		
drained	None     	None       	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None     	None     	None       	None       	None       	None       	None       	None       
L63A:	l	ļ		İ	l	ļ	l	ļ.	[	[	[	ļ.
Klossner	None   	None   	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None   	None   	None   	None   	None   	None     	None   	None   

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Map symbol   and	January	   February	   March							l		l
component name		İ İ		April   	May   	June   	July   	August   	September   	October   	November   	December
		İ	!	İ		ļ.			!		!	
L63A:   Lura      	None	   None   	  Frequent   Long   Depth:   0.5	  Frequent   Brief   Depth:   1.0	   None   	   None   	   None   	   None 	   None   	   None   	   None   	   None   
Brownton	None	   None 	   None 	   None 	   None 	   None 	   None 	   None 	   None 	   None 	   None 	   None 
L64A:		İ	İ	i	i	İ					i	! 
Tadkee	None	None	None	None	None	None	None	None	None	None	None	None
Tadkee,		İ	İ	İ	İ	İ	İ		İ	ĺ	İ	İ
depressional        	None	None     	Frequent   Long   Depth:   1.0	Frequent   Very long   Depth:   1.0	Frequent   Long   Depth:   1.0	Frequent   Brief   Depth:   0.5	None     	None   	None     	None     	None     	None     
Better drained		İ	l I		l I	i i		l İ		l İ	i	! 
soil	None	None	None	None	None	None	None	None	None	None	None	None
Granby      	None	   None     	  Frequent   Long   Depth:   1.0	  Frequent   Very long   Depth:   1.0	  Frequent   Long   Depth:   1.0	  Frequent   Brief   Depth:   0.5	None       	   None   	None   	   None   	None       	   None   
Less sandy soil	None	None	None	None	None 	None	None	None	None	   None 	None 	   None 
L73A:			<u> </u>									
Blue Earth      	None	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None     	None     	None     	None   	None     	None     	None     	None     
Belleville	None	None	None	None	   None 	None	   None 	   None 	None	   None 	None	   None 
Canisteo	None	None	None	None	   None 	None	None	None	None	None 	None	   None 
L74A:		i		i		i	i	 	i	 	i	
Estherville	None	None	None	None	None	None	None	None	None	None	None	None
Hawick	None	None	None	None	   None 	None	   None 	   None 	None	   None 	None	   None 
Biscay  	None	None	None	None	   None 	None	   None 	   None 	None	   None 	   None 	   None 

Map symbol and component name	   January   	   February 	   March 	   April 	   May 	   June 	   July 	   August 	  September 	   October 	   November 	   December 
	ĺ	İ	Ī	Ī	Ì	Ī	İ	Ī	Ī	İ	İ	İ
L75B:	İ	İ	İ	į	İ	İ	İ	İ	İ	İ	İ	İ
Barrington	None	None	None	None	None	None	None	None	None	None	None	None
Gladek	None	None	None	None	None	None	None	None	None	None	None	None
Madelia	None	None	None	None	None	None	None	None	None	None	None	None
L76B:	i	i	i	i	i	i	i	i	i	i	i	i
Dickinson	None	None	None	None	None	None	None	None	None	None	None	None
Litchfield	None	None	None	None	None	None	None	None	None	None	None	None
Darfur	None	None	None	None	None	None	None	None	None	None	None	None
Clarion	   None	None	None	None	None	None	None	None	None	None	None	None
L77A:	! !					I I					 	 
Brownton	None	None	None	None	None	None	None	None	None	None	None	None
Marna	None	None	None	None	None	None	None	None	None	None	None	None
Lura	None       	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None       	None       	None       	None       	None     	None       	None       	   None     
L78A:	i I	i	i	1	i	i	İ	i	İ	İ	İ	i
Canisteo	None	None	None	None	None	None	None	None	None	None	None	None
Crippin	None	None	None	None	None	None	None	None	None	None	None	None
Glencoe	None       	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None       	None       	None       	None       	None       	None       	None       	None       
Canisteo, depressional	   None     	   None     	  Frequent   Long   Depth:   0.5	  Frequent   Brief   Depth:   1.0	   None     	   None     	   None     	   None     	   None     	   None     	   None     	   None     
Harps	None	None	None	None	None	None	None	None	None	None	None	None
Webster	   None 	None	None	None	None	None	None	None	None	None	   None 	   None 
	ı	1	I	1	1	1	I	1	T.	I	I	1

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Table 19.--Ponding Frequency, Duration, and Depth--Continued

and component name	 	1			I			I	1	I		I
		1	i I	I I	l I			! I	1	! 		i i
L79B:		İ	İ	l				l	İ	l	i	l
	İ	į	İ	İ	İ	j		İ	İ	İ	İ	j
Clarion	None	None	None	None	None	None	None	None	None	None	None	None
Clarion, eroded	   None 	None	None	None	None	None	None	   None 	None	None	None	   None
Nicollet	   None 	None	None	None	None	None	None	   None 	None	None	None	   None
Webster	   None 	None	   None	   None 	   None 	   None	None	   None 	None	   None 	None	   None
L80C2:	! 	i	i i	i I	! 			! 	i	i I	i	! 
Lester, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Terril	   None	None	   None	   None	   None	   None	None	   None	None	   None	None	   None
Hamel	   None	None	   None	   None	   None	   None	None	   None	None	   None	None	   None
Reedslake	   None	None	   None	   None	   None	   None	None	   None	None	   None	None	   None
Storden, eroded	   None	None	   None	   None	   None	   None	None	   None	None	   None	None	   None
L80D2:	 	l I	! 	! 	l I			 	l I	 	l I	 
Lester, eroded	   None 	None	None	   None 	None	None	None	None	None	None	None	None
Ridgeton	   None 	None	None	   None 	None	None	None	None	None	None	None	None
Storden, eroded	None	None	None	None	None	None	None	None 	None	None	None	None
Terril	None	None	None	None	None	None	None	None	None	None	None	None
Hamel	None	None	None	None	None	None	None	None	None	None	None	None
L81A:	i	i	i	İ	! 			i I	i	İ	i	! 
Cordova	None	None	None	None	None	None	None	None	None	None	None	None
Le Sueur	   None	None	   None	   None	   None	   None	None	   None	None	   None	None	   None
Rolfe	   None   	None     	  Frequent   Long   Depth:   0.5	  Frequent   Brief   Depth:   1.0	None   	None   	None	   None   	None     	   None   	   None   	   None   
L82A:	 	1	 	I I	 	] 		 	I I	 	I I	l I
Marna	   None	None	   None	   None	   None	   None	None	   None	None	   None	   None	   None

Map symbol and component name	   January   	   February   	   March 	   April 	   May 	   June 	   July 	   August   	  September   	   October   	   November   	   December   
	l		1	1		I	I	l		I	I	l
L82A:				1					1		I	
Barbert	None     	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None     	None       	None       	None     	None     	None       	None       	None     
Guckeen	None	None	None	None	None	None	None	None	None	None 	None	None
L83A:				1					1		I	
Webster	None	None	None	None	None	None	None	None 	None	None	None	None
Glencoe	None     	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None       	None       	None       	None       	None     	None       	None     	None       
Canisteo	   None 	None	None	None	None	None	None	   None 	None	None	None	   None 
Nicollet	None	None	None	None	None	None	None	   None 	None	None	None	   None 
L84A:	İ	i	i	i	i	i	i	i	i	i	i	i
Glencoe	None   	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None       	None       	None       	None     	None     	None       	None       	None     
Very poorly	İ	i	i	i	i	i	i	i	i	i	i	i
drained muck	None	None       	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None       	None       	None       	None       	None     	None       	None       	None       
Canisteo	   None 	None	None	None	None	None	None	None	None	None	None	None
Harps	   None 	None	None	None	None	None	None	None	None	None	None	None
L85A:	i I	i	i	i	i	i	i	i	i	i	İ	i
Nicollet	   None 	None	None	None	None	None	None	None	None	None	None	None
Clarion	   None 	None	None	None	None	None	None	   None 	None	None 	None	   None 
Webster	None 	None	None	None	None	None	None	None 	None	None 	None 	   None 

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	   January   	   February   	   March 	   April 	   May 	   June 	   July 	   August 	  September   	   October   	   November   	   December   
	[	ļ.	ļ	Į.	ļ	ļ	l		İ	I	Į.	
L86A:								ļ 				
Madelia	None	None	None	None	None	None	None	None	None	None	None	None
Okoboji	None       	None       	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	   None     	   None     	   None   	None     	None       	   None     	None         	None       
Spicer	None	None	None	None	   None 	   None 	   None 	None	None	None	None	   None 
Kingston	None	None	None	None	   None 	   None 	   None 	   None 	None	None	None	   None 
L87A:	į	İ	İ	i	j	i		İ	i	İ	i	j
Kingston	None	None	None	None	None	None	None	None	None	None	None	None
Truman	None	None	None	None	None	None	None	None	None	None	None	None
Madelia	None	None	None	None	None	None	None	None	None	None	None	None
L88A:	į	İ	į	i	İ	İ	İ	İ	į	į	İ	İ
Lura	None     	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None     	None     	None   	None     	None     	None     	None     	None     
Brownton	None	None	None	None	   None 	   None 	   None 	   None 	None	None	None	   None 
Organic soil	None     	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	   None   	   None   	None   	   None   	None     	None     	None     	   None     
L89A:	 	l I			I I	! 	l I	l I	i i	! !	 	I I
Guckeen	None	None	None	None	None	None	None	None	None	None	None	   None 
Marna	None	None	None	None	   None 	   None 	None	None	None	None	None	   None 
Clarion clay	i	i	i	i	İ	į	İ	İ	İ	i	i	İ
loam	None	None	None	None	None	None	None	None	None	None	None	None
L90A:		[	ļ	I	l	l	l	l	[	ļ	[	l
Le Sueur	None	None	None	None	None	None	None	None	None	None	None	None
Cordova	None	None	None	None	None	None	None	None	None	None	None	None
Reedslake	None	None	None	None	None	None	None	None	None	None	None	None

Map symbol and component name	   January 	   February 	   March 	   April 	   May 	   June 	   July 	   August 	  September 	   October 	   November 	   December 
	i	i	Ī	i	İ	Ì	İ	İ	Ī	İ	Ì	Ī
L91A:	İ	i	i	i	i	i	İ	i	i	i	i	i
Mazaska	None	None	None	None	None	None	None	   None	None	None	None	None
			i		İ			İ		İ		i
Lerdal	None	None	None	None	None	None	None	None	None	None	None	None
	İ	i	i	İ	į	İ	İ	İ	i	į	İ	i
Rolfe	None   	None	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None   	None	None   	None   	None   	None   	None	None
	ļ	ļ	ļ	ļ	!	ļ		!	!	!	ļ	!
L92A:	ļ 						ļ 					
Darfur	None	None	None	None	None	None	None	None	None	None	None	None
Fieldon	   None	   None	None	   None	   None	   None	   None	   None	   None	   None	   None	   None
rieidon	l None	None	None	None	None	None	l Norie	l None	None	None	None	l None
Litchfield	   None	None	None	None	   None	None	I None	   None	None	   None	None	None
	110110						1.0110					
Webster	None	None	None	None	None	None	None	None	None	None	None	None
	İ	İ	İ	İ	İ	į	İ	İ	İ	İ	İ	į
Dassel	None	None	Frequent	Frequent	None	None	None	None	None	None	None	None
			Long	Long								
			Depth:	Depth:								
		]	0.5	1.0		!			1			
	ļ	ļ	ļ		!	ļ			!	!	ļ	ļ
L93A:	   Wana	l Wana		   Total and a mate	27	l Warra	l Wana		Name	27	l Warra	l Mana
Muskego	None	None	Frequent	Frequent   Brief	None	None	None	None	None	None	None	None
	l i	I I	Long	!	 	I I	l i	l I		 	l i	1
	l i	I I	Depth:	Depth:   1.0	 	I I	l i	l I		 	l i	1
	l I	1	1 0.5	1 1.0	! !	I I	l I	! !	-	! !	I I	i i
Blue Earth	   None	None	Frequent	  Frequent	   None	None	I None	   None	None	   None	None	None
Dide Daren	l Hone	None	Long	Brief	l None	110110	l Morie	l Hone	110110	l None	l Home	110110
	! 	1	Depth:	Depth:	i i	i i	! 	<u> </u>	1	i i	i i	i
	! 	1	0.5	1.0	i	<u> </u>	! 	i	1	i	i	i
	i I	i		1.0	İ	i	i I	İ	i	İ	i	<u> </u>
Mineral soil,	İ	i	i	i	i	İ	İ	i	i	i	İ	i
drained	None	None	Frequent	Frequent	None	None	None	None	None	None	None	None
	İ	İ	Long	Brief	İ	İ	İ	İ	İ	İ	İ	İ
	İ	İ	Depth:	Depth:	į	İ	İ	į	i	į	İ	i
	İ	i	0.5	1.0	i	İ	İ	i	i	i	i	i
	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ	İ
Belleville	None	None	None	None	None	None	None	None	None	None	None	None
	I	1	1	1	I	1	I	I	1	I	I	1

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	January	   February   	   March 	   April 	   May 	   June 	   July 	   August   	  September   	   October   	   November   	   December   
				I				I	1	I		
L94A:				1		l	l	1	1	1		
Lowlein	None	None	None	None	None	None	None	None	None	None	None	None
Linder	None	None	   None	None	   None	   None	   None	None	None	None	None	   None
Dickinson	None	None	   None	None	   None	   None	   None	   None	None	None	None	   None
Darfur	None	None	   None	None	   None	   None	   None	   None	None	   None	None	   None
L95E:			 	l I	 	l I	l I	 		 	I I	 
Hawick	None	None	None	None	None	None	None	None	None	None	None	None
Estherville	None	None	   None	None	None	   None	   None	None	None	None	None	   None
Tomall	None	None	   None	None	None	   None	   None	None	None	None	None	   None
L96B:	 		 	 	 	l I	l I	 		 	I I	 
Estherville	None	None	None	None	None	None	None	None	None	None	None	None
Hawick	None	None	None	None	None	None	None	None	None	None	None	None
Tomall	None	None	   None	None	None	   None	   None	None	None	None	None	   None
Biscay	None	None	   None	None	   None	   None	   None	   None	None	None	None	   None
L97C:	 		 	 	 	l I	l I	 		 	I I	 
Hawick	None	None	None	None	None	None	None	None	None	None	None	None
Estherville	None	None	   None	   None	   None	   None	   None	   None	None	   None	   None	   None
Tomall	None	None	   None	   None	   None	   None	   None	   None	   None	   None	   None	   None
L98A:			 	1		l I	l I	1				  -
Crippin	None	None	   None	None	   None	   None	   None	None	None	None	None	   None
Nicollet	None	None	   None	   None	   None	   None	   None	   None	None	   None	   None	   None
Canisteo	None	None	   None	   None	   None	   None	   None	   None	None	   None	   None	   None
Clarion	None	None	   None	   None	   None	   None	   None	   None	None	   None	   None	   None
T 0.0D -	 		 			 	 				1	
L99B: Clarion	None	None	   None	   None	   None	   None	   None	   None	None	   None	None	   None
Swanlake	None	None	   None	   None	   None	   None	   None	   None	None	   None	   None	   None
					I		l		1			I

Map symbol and component name	   January   	   February 	   March 	   April 	   May 	   June 	   July 	   August 	  September   	   October 	   November 	   December 
	ĺ	İ	l	Ī	İ	Ī	Ī	İ	Ī	l	ĺ	İ
L99B:	ĺ	İ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ	ĺ
Nicollet	None	None	None	None	None	None	None	None	None	None	None	None
Webster	   None	None	   None	   None	   None	   None	   None	   None	   None	   None	   None	   None
L100B:	! !		 		I I	 	 	 	l I	 	! !	! !
Clarion	None	None	None	None	None	None	None	None	None	None	   None 	   None 
Estherville	None	None	None	None	None	None	None	None	None	None	None	None
Lowlein	None	None	None	None	None	None	None	None	None	None	None	   None
Nicollet	   None 	None	None	None	None	None	None	None	None	None	None	   None
Swanlake	None	None	None	None	None	None	None	None	None	None	None	   None
Webster	   None	None	   None	None	   None	None	None	   None	None	None	   None	   None
L101C2:	l I		I I		l I	i i	i i	I I	i i	i i	l I	! 
Omsrud, eroded	None	None	None	None	   None 	None	None	None	None	None	   None 	   None 
Hawick	   None 	None	   None 	None	   None 	None	None	None	None	None	   None 	   None 
Storden, eroded	   None 	None	   None 	None	   None 	None	None	   None 	None	None	   None 	   None 
Delft	None	None	   None 	None	   None 	None	None	None	None	None	   None 	   None 
Terril	None	None	None	None	None	None	None	None	None	None	None	None
L101D2:	İ	i	İ	i	İ	i	i	İ	i	i	į	İ
Omsrud, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Hawick	None	None	None	None	None	None	None	None	None	None	None	None
Storden, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton	None	None	None	None	None	None	None	None	None	None	None	None
Delft	None	None	None	None	   None 	None	None	None	None	None	None	   None 
Terril	   None 	None	   None 	None	   None 	None	None	   None 	None	   None 	   None 	   None 
L102C2: Omsrud, eroded	     None	   None	     None	   None	     None	     None	     None	     None	     None	     None	     None	     None
Storden, eroded	None 	None	None 	None	   None 	None 	None 	   None 	None	None 	   None 	   None 

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Map symbol   and   component name	January	   February   	   March   	   April 	   May 	   June 	July	   August   	  September   	   October   	   November   	   Decembe:   
		1	I	1	I	I		I	1	I	I	I
L102C2:		i	i	i	i	i		i	i	i	i	i
Omsrud	None	None	None	None	None	None	None	None	None	None	None	None
Omsi ud	None	I None	I None	None	l Morie	None	None	l None	None	l None	None	l None
m							**	 		 		
Terril	None	None	None	None	None	None	None	None	None	None	None	None
								ļ				
Delft	None	None	None	None	None	None	None	None	None	None	None	None
		!	!	ļ					ļ		!	
L102D2:												
Omsrud, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Storden, eroded	None	None	None	None	None	None	None	None	None	None	None	None
į		İ	İ	Ì	İ	İ		ĺ	Ì	İ	İ	ĺ
Omsrud	None	None	None	None	None	None	None	None	None	None	None	None
į		i	i	i	i	i		i	i	i	i	i
Ridgeton	None	None	None	None	None	None	None	None	None	None	None	None
nageton	110110	1	1	I None	l Hone	l Hone	110110	l None	1	l None	110110	l Hone
Delft	None	None	None	None	l None	l None	None	l None	None	l None	l None	l Mone
Detit	None	None	None	None	None	None	None	None	None	None	None	None
!								ļ				
Terril	None	None	None	None	None	None	None	None	None	None	None	None
L103A:												
Fieldon	None	None	None	None	None	None	None	None	None	None	None	None
			I	1	1			1	1	1	1	1
Canisteo	None	None	None	None	None	None	None	None	None	None	None	None
į		i	İ	İ	İ	İ		İ	İ	İ	į	İ
Darfur	None	None	None	None	None	None	None	None	None	None	None	None
			1				1	l		1	1	i
Glencoe	None	None	  Frequent	Frequent	None	None	None	None	None	None	None	None
Giencoe	None	I None	Long	Brief	l Morre	I MOIIE	I NOME	l Morie	None	l MOITE	I NOTE	l Morre
I		1	!	!	!	!		 	!	!	1	!
		!	Depth:	Depth:	!	!		!	!	!	!	!
		!	0.5	1.0	!	!		!	!	!	!	!
		!	ļ.	!	!	!		!	!	!	ļ.	ļ.
L105C2:			I					l				l
Lester, eroded	None	None	None	None	None	None	None	None	None	None	None	None
												I
Hawick	None	None	None	None	None	None	None	None	None	None	None	None
į		i	İ	İ	İ	İ		İ	İ	İ	į	İ
Terril	None	None	None	None	None	None	None	None	None	None	None	None
I					i	i		i				
Hamel	None	None	None	None	   None	None	None	   None	None	None	None	None
namer	MOHE	I MOTIE	I MOTTE	I MOTTE	I MOTTE	I MOTTE	MOHE	I MOTIE	I MOTIE	I MOTTE	I MOTTE	I MOTTE
Į.		!	!	!	I	I		I	I	!	I	I
Storden, eroded	None	None	None	None	None	None	None	None	None	None	None	None

Map symbol and component name	   January 	   February   	   March 	   April 	   May 	   June 	   July 	   August 	  September 	   October   	   November   	   December   
	l	1	1		I		I	l	1	I	[	[
L105D2:		[					[		[			
Lester, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Hawick	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton	None	None	None	None	None	None	None	None	None	None	None	None
Hamel	   None	None	None	None	None	   None	None	   None	None	   None	None	None
Storden, eroded	   None	None	None	None	None	   None	None	   None	None	   None	None	None
Terril	   None	None	None	None	None	   None	None	   None	None	   None	None	None
L106C2:	l I	1	 		! !	l I	! !	! 	1	! !	 	
Lester, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Storden, eroded	   None	None	None	None	None	   None	None	   None	None	None	None	None
Terril	   None	None	   None	None	   None	   None	None	   None	None	   None	None	None
Hamel	   None	None	   None	None	   None	   None	None	   None	None	   None	None	None
Reedslake	   None	None	   None	None	   None	   None	   None	   None	None	   None	None	None
L106D2:	l I			1	 	l I	 	! !	-	 		
Lester, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Storden, eroded	   None	None	None	None	None	   None	None	None	None	None	None	None
Ridgeton	   None	None	None	None	None	   None	None	None	None	None	None	None
Terril	   None	None	None	None	None	   None	None	   None	None	   None	None	None
Hamel	   None	None	   None	None	   None	   None	   None	   None	None	   None	None	None
L107A:	! 		:		<u> </u>	! 	<u> </u>	İ		<u> </u>		1
Canisteo	   None	None	None	None	None	   None	None	None	None	None	None	None
Glencoe	   None	   None	Frequent	Frequent	   None	   None	   None	   None	None	   None	   None	   None
	   	   	Long   Depth:   0.5	Brief   Depth:   1.0	   	   	   	   		   	   	   
Harps	   None	   None	   None	   None	     None	   None	     None	   None	   None	   None	   None	   None

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Table 19 Ponding Frequency, Duration, and Depth-	Continued
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Map symbol and component name	   January   	   February   	   March 	   April 	   May 	   June 	   July 	   August 	  September   	   October   	   November   	   December   
	[	ļ.	ļ	İ	ļ	[	ļ		ļ	Į.	[	ļ.
L107A:			ļ									
Canisteo,			 	 	 							
depressional	None     	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None   	None     	None   	None     	None   	None   	None   	None     
Crippin	   None 	   None 	   None 	   None	   None 	   None 	   None 	   None 	None	   None 	   None 	   None 
L108A:	į	İ	İ	i	j	j	İ	İ	į	İ	į	İ
Cordova	None	None	None	None	None	None	None	None	None	None	None	None
Rolfe	None     	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None   	None     	None   	None     	None     	None     	None     	None     
Le Sueur	   None 	None	None	None	   None 	   None 	   None 	   None 	None	   None 	   None 	   None 
L109A:	į	İ	İ	i	İ	į	İ	İ	İ	İ	į	İ
Marna	None	None	None	None	None	None	None	None	None	None	None	None
Barbert	None     	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	   None     	None     	None     	None     	None     	None     	None     	None     
Guckeen	   None 	None	None	None	   None 	   None 	   None 	   None 	None	None	   None 	   None 
L110E:	į	İ	İ	i	j	j	İ	İ	į	İ	į	İ
Lester	None	None	None	None	None	None	None	None	None	None	None	None
Ridgeton	None	None	None	None	None	None	None	None	None	None	None	None
Cokato	None	None	None	None	None	None	None	None	None	None	None	None
Belview	None	None	None	None	   None	None	   None	   None	None	None	None	None
Hamel	None	None	None	None	   None	   None	   None	   None	None	None	None	   None
Terril	   None	None	None	None	   None	   None	   None	   None	None	None	   None	   None
L110F:	 	 	 	I	 	I I	 	 	I I	I I	I I	 
Lester	None	None	None	None	   None	None	   None	   None	None	None	None	   None
Ridgeton	   None 	None	None	None	   None 	   None 	   None 	   None 	None	None	   None 	   None 
	1	1	1	1	I	1	1	I	1	1	1	I

Map symbol and component name	   January 	   February   	   March   	   April 	   May 	   June 	   July   	   August   	  September 	   October   	   November 	   December 
		Ī	Ī	Ī	İ	İ	Ī	i	Ì	Ī	Ì	İ
L110F:		i	i	i	i	i	i	i	i	i	İ	i
Cokato	None	None	None	None	None	None	None	None	None	None	None	None
	İ	İ	İ	İ	İ	İ	İ	İ	i	İ	İ	İ
Belview	None	None	None	None	None	None	None	None	None	None	None	None
		1	1	1	1	1	1			1		
Terril	None	None	None	None	None	None	None	None	None	None	None	None
		!	!	ļ	!	!	!		ļ.	!		!
Hamel	None	None	None	None	None	None	None	None	None	None	None	None
		ļ		ļ					ļ		ļ	
L111A:												 
Nicollet	None	None	None	None	None	None	None	None	None	None	None	None
Clarion	   None	None	   None	None	None	None	None	   None	None	None	None	   None
Clailon	l None	None	None	None	None	None	None	l None	None	None	None	l None
Webster	None	None	None	None	None	None	None	None	None	None	None	None
L112A:		i	i	i	i	i	i	İ	i	i	İ	i
Webster	None	None	None	None	None	None	None	None	None	None	None	None
	İ	İ	İ	İ	İ	İ	İ	İ	į	į	İ	İ
Glencoe	None	None	Frequent	Frequent	None	None	None	None	None	None	None	None
			Long	Brief	1	[	1					
			Depth:	Depth:	[	[						
			0.5	1.0	[	[						
		!	!	!	!	!	!		ļ	ļ	ļ	!
Nicollet	None	None	None	None	None	None	None	None	None	None	None	None
* 11 3 D		!	!	!	!	!	!		!	!		ļ
L113B: Reedslake	   None	None	   None	   None	   None	   None	   None	   None	   None	   None	   None	   None
Reedslake	l None	None	None	None	None	None	None	l Noile	None	None	None	None
Le Sueur	   None	None	None	None	None	None	None	   None	None	None	None	None
IC Ducui	l Hone	l None	1	i none	l Hone	l Hone	l Hone	l None	l world	l None	l Hone	l Hone
Reedslake,		i	i	i	i	i	i	i	i	i	i	i
eroded	None	None	None	None	None	None	None	None	None	None	None	None
	İ	İ	i	i	į	į	İ	İ	i	į	İ	İ
Cordova	None	None	None	None	None	None	None	None	None	None	None	None
		1	1	1	1	1	1			1		
L114A:			1	1	1	[	1					
Hanlon, rarely				1	[	[						
flooded	None	None	None	None	None	None	None	None	None	None	None	None
		!	!	!	!	!	!		ļ	ļ	ļ	!
Coland,		ļ		ļ					ļ		ļ	
occasionally												 
flooded	None	None	None	None	None	None	None	None	None	None	None	None
Minneopa, rarely	] 	1	1		I I	I I	1	 	1	1	I I	I I
flooded	   None	None	   None	   None	   None	   None	   None	   None	None	   None	   None	   None
	110110				110110			110110 				110110
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Table 19.--Ponding Frequency, Duration, and Depth--Continued

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Map symbol and component name	   January   	   February   	   March   	   April 	   May 	   June 	   July 	   August   	  September 	   October   	   November   	   December 
	İ	Ì	Ī	İ	i	l	İ	i	i i	İ	Ī	İ
L115A:	i	İ	i	i	i İ	i İ	i İ	i İ	i	i	i	! I
Brownton	None	None	None	None	None	None	None	None	None	None	None	None
DIOWITCOIL	l None	l None	110110	110110	l Hone	l world	l Morio	l None	l world	l Horic	l Hone	l Morre
Lura	None     	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None	None	None   	None   	None     	None   	None   	None   
Marna	   None	   None	   None	   None	   None	   None	   None	   None	   None	   None	   None	   None
L116A:	i I	i i	1		! 	! 	! 	! 		i I	<u> </u>	! 
Le Sueur	   None	None	None	None	   None	   None	   None	   None	None	None	None	   None
ne bueur	l wone	None	None	None	l wone	l wone	l Mone	l None	None	l Morre	None	None
Lerdal	None	None	None	None	None	None	None	None	None	None	None	None
Mazaska	None	None	None	None	None	None	None	None	None	None	None	None
Kilkenny	None	None	None	None	None	None	None	   None 	None	None	None	   None 
L117C2:	! !		l I		 	 	I I	I I		! !	! !	I I
Omsrud, eroded	None	None	None	None	None	None	None	None	None	None	None	None
	İ	İ	į	į	İ	İ	İ	İ	İ	İ	İ	İ
Omsrud	None	None	None	None	None	None	None	None	None	None	None	None
Terril	None	None	None	None	   None	None	   None	None	None	None	None	   None
Delft	None	None	None	None	None	None	None	None	None	None	None	None
Storden, eroded	None	None	None	None	None	None	None	   None	None	None	None	   None
L118A: Rushriver, frequently flooded	       None	       None	         None	       None	       None	       None	       None	       None	       None	       None	       None	       None
Houghton, frequently flooded	       None	     None	       None	     None	       None	       None	       None	       None	     None	       None	       None	       None
Klossner, frequently flooded	       None	     None	     None 	     None	     None	     None	       None	       None	     None	       None	       None	     None
Medo, frequently flooded	     None 	   None	   None 	   None	     None 	   None 	     None 	     None 	   None	     None 	     None 	     None 

Map symbol and component name	   January   	   February   	   March   	   April 	   May 	   June 	   July 	   August   	  September 	   October   	   November   	   December   
	l	l	l	l	I	Ī	Ī	Ī	I	I	I	I
L119B:	i	İ	i	i	i	i	i	i	i	i	i	i
Angus	None	None	None	None	None	None	None	None	None	None	None	None
Angus, eroded	None	None	None	None	None	None	None	None	None	None	None	None
Cordova	   None	None	None	None	None	None	None	None	None	None	None	   None
Le Sueur	   None	None	None	None	   None	None	None	   None	None	   None	None	   None
T1203 -												
L120A: Good Thunder	   None	None	None	None	None	None	None	None	None	None	None	   None
Ocheyedan	   None	None	None	None	None	None	None	None	None	None	None	   None
Minnetonka	   None	None	None	None	   None	None	None	   None	None	   None	None	   None
L121B:	 	l i	1	I I	 	I I	 	 	1	 	 	 
Clarion	None	None	None	None	None	None	None	None	None	None	None	   None
Guckeen	   None	None	None	None	None	None	None	None	None	None	None	   None
Marna	   None	None	None	None	None	None	None	   None	None	None	None	   None
L122B:	I I	I I	I I	l I	! !		 			! !	 	I I
Reedslake	None	None	None	None	None	None	None	None	None	None	None	None
11004514110	1				110210					110210		
Estherville	None	None	None	None	None	None	None	None	None	None	None	None
Le Sueur	None	None	None	None	None	None	None	None	None	None	None	None
Cordova	None	None	None	None	None	None	None	None	None	None	None	   None
Lowlein	None	None	None	None	None	None	None	None	None	None	None	   None
L123A:	I I	I I	I I	l I	! !		 			! !	 	I I
Belleville	   None	None	None	None	None	None	None	   None	None	None	None	   None
Granby	   None 	   None   	  Frequent   Long   Depth:	  Frequent   Very long   Depth:	Depth:	  Frequent   Brief   Depth:	   None 	   None 	None   	   None 	   None 	   None 
			1.0	1.0	1.0	0.5						
							I	I			I	

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Table 19 Ponding Frequency, Duration, and Depth-	Continued
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Map symbol and component name	   January   	   February   	   March   	   April 	   May 	   June 	   July   	   August   	  September   	   October   	   November   	   December   
L124A: Glencoe mucky	 	   	 	   	 	   	 	   	   	 	   	   
clay loam	None       	None     	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	None     	None     	None     	None     	None     	None       	None       	None     
Canisteo	None	None	None	None	   None 	   None 	   None 	   None 	None	   None 	None 	   None 
Glencoe clay	i	İ	İ	i	İ	İ	İ	İ	i	i	i	i
loam	None       	None       	Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	   None   	None     	   None   	   None     	None       	   None     	   None     	   None     
L125A: Hanlon, rarely					   	   	   	   		!   !		!   !
flooded	None	None	None	None	   None	   None	   None	   None	None	   None	None	   None
Coland, occasionally	   	   	   		 	 	   	   	   	   	   	   
flooded	None	None	None	None	None	None	None	None	None	None	None	None
Minneopa, rarely flooded	•	   None	   None	   None	   None	   None	   None	   None	   None	   None	   None	   None
L126A: Coland,	   	   	   		   	   	   	   	   	   	   	   
occasionally flooded	None	None	None	None	   None	   None	   None	   None	None	   None	None	   None
Minneopa, occasionally	   	   	   	 	 	 	 	 	   	   	   	   
flooded	None	None	None	None	None	None	None 	None 	None	None 	None	None
Havelock, occasionally	ļ !	<u> </u> 	<u> </u> 						<u> </u> 	 	ļ !	 
flooded	None	None	None	None	None 	None	None 	None 	None	None 	None	None 
Spillville, occasionally flooded	     None	     None	     None	     None	     None	     None	     None	     None	     None	     None	     None	     None
L127A: Coland, frequently	     	     	     	 	     		   	     	     	     	     	     
flooded	None	None	None	None	None	None	None	None	None	None	None	None

Map symbol and component name	   January   	   February 	   March 	   April 	   May 	   June 	   July 	   August 	  September 	   October 	   November 	   December 
	i	i	1	i	i	1	i	1	İ	I	i	i
L127A: Minneopa, occasionally flooded	       None	       None	       None	       None	       None	       None	       None	       None	       None	       None	       None	       None
Havelock, frequently flooded	       None	       None	       None	       None	       None	       None	       None	       None	       None	       None	       None	       None
Spillville, occasionally flooded	       None	       None	       None	       None	       None	       None	       None	       None	       None	       None	       None	       None
1100ded	None	None	None	None	None	None	None	None	None	None	None	None
L128A:	İ	į	i	i	İ	İ	i	i	į	į	i	İ
Mazaska	None	None	None	None	None	None	None	None	None	None	None	None
Rolfe	   None   	   None   	  Frequent   Long   Depth:   0.5	Frequent   Brief   Depth:   1.0	   None   	   None   	   None   	   None   	   None   	   None   	   None   	   None   
Lerdal	   None 	None	   None 	None	   None 	None	None	   None 	None	   None 	None	   None 
L129B:	İ	i	i	i	i	İ	i	i	i	i	i	İ
Terril	None	None	None	None	None	None	None	None	None	None	None	None
Delft	   None	None	   None	   None	   None	   None	   None	   None	None	   None	   None	   None
Hamel	None 	None	None	None	None	None	None	None	None	None	None	None
L130A: Okoboji mucky silty clay loam	     None 	     None   	  -  Frequent   Long   Depth:   0.5	  Frequent  Brief   Depth:   1.0	     None 	     None   	     None 	     None   	     None   	     None 	     None   	     None 
Okoboji silty clay loam	     None	     None	    Frequent	    Frequent	     None	     None	     None	     None	     None	     None	     None	     None
	 	   	Long Depth:	Brief   Depth:   1.0	 	     	 	 	   	 	 	 
Brownton	   None	None	   None	None	   None	   None	   None	   None	None	   None 	   None	   None
Spicer	   None 	None	None	None	None	None	None	None	None	   None 	None	   None 
		-	-		•	•	-	-	•		-	

Table 19.--Ponding Frequency, Duration, and Depth--Continued

Table 19.--Ponding Frequency, Duration, and Depth--Continued

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Map symbol	January	February	March	April	May	June	July	August	September	October	November	December
and												1
component name		l		L			L	L	l	l		
							l	l		l		
M-W.												
Water,												
miscellaneous												1
U3B.												
Udorthents (cut												l
and fill land)												
W.												
Water												
							1	1		1		

Table 20.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Total   For   Steel   Concret   Total   For   Steel   Concret   Total   Frost action   Steel   Concret   Total   Frost action   Steel   Concret   Total   Frost action   Steel   Concret   Total   Frost action   Steel   Concret   Total   Frost action   Steel   Concret   Total   Frost action   Steel   Concret   Total   Frost action   Steel   Concret   Total   Frost action   Steel   Concret   Total   Frost action   Total   Frost actio	Map symbol and	Pct. of	Subsid	lence	   Potential	Risk of	corrosion
In						Uncoated	
GP: Pits, gravel.  Udipsamments.  L5A: Delft, overwash					frost action	steel	Concrete
Pits, gravel.         Udipsamments.           L5A:         Delft, overwash			In 	In	 	 	 
Udipsamments.  15h: Delft, overwash 50 High High Low  Delft 40 High High Low  Glencoe 5 High High Low  Terril 5 Moderate Moderate Low  Ll3A: Klossner, drained 80 2-4 25-32 High High Moderate  Mineral soil, drained 5 6-18 55-60 High High Moderate  Ll4A: Houghton, drained 80 6-18 55-60 High High Moderate  Klossner, drained 10 2-4 25-32 High High Moderate  Klossner, drained 30 2-4 25-32 High High Low  Ll5A: Klossner, ponded 30 High High Low  Glencoe, ponded 30 High High Low  Houghton,			İ		į	į	į
LSA: Delft, overwash	Pits, gravel.			l I		 	 
Delft, overwash 50 High High Low  Delft 40 High High Low  Glencoe 5 High High Low  Terril 5 Moderate Moderate Low  Ll3A:  Klossner, drained 80 2-4 25-32 High High Moderate  Houghton, drained 5 6-18 55-60 High High Moderate  Ll4A:  Houghton, drained 80 6-18 55-60 High High Moderate  Klossner, drained 10 2-4 25-32 High High Moderate  Klossner, drained 10 High High Low  Mineral soil, drained 10 High High Low  Ll5A:  Klossner, ponded 30 2-4 25-32 High High Moderate  Okoboji, ponded 30 High High Low  Houghton, ponded 30 High High Moderate  Blue Earth, ponded 30 0 35-45 High Moderate  Muskego, ponded 30 0 35-45 High Moderate  Moderate  Nowlease Moderate  Moderate  Moderate  Nowlease Moderate  Moderate  Moderate  Nowlease Moderate  Moderate  Moderate  Moderate  Nowlease Moderate  Moderate  Moderate  Moderate  Nowlease Moderate  Moderate  Moderate  Nowlease Moderate  Moder	Udipsamments.		   		   	   	   
Delft	L5A:				İ	İ	İ
Section	Delft, overwash	50	 		High	High 	Low
Terril	Delft	40	 		  High 	  High 	  Low 
L13A:  Klossner, drained	Glencoe	5	 		  High 	  High 	  Low 
Klossner, drained	Terril	5	 		  Moderate 	  Moderate 	  Low 
Mineral soil, drained					į	İ	į
Houghton, drained 5 6-18 55-60 High High Moderate L14A: Houghton, drained 80 6-18 55-60 High High Moderate Klossner, drained 10 2-4 25-32 High High Moderate Mineral soil, drained 10 High High Low  L15A: Klossner, ponded 30 2-4 25-32 High High Moderate Okoboji, ponded 30 High High Low  Glencoe, ponded 30 High High Low Houghton, ponded 10 6-18 55-60 High High Moderate Blue Earth, ponded 30 High High Low Houghton, ponded 30 High High Moderate Blue Earth, ponded 30 High High Moderate Klossner, ponded 30 High High Moderate Blue Earth, ponded 30 High High Moderate Klossner, ponded 30 High High Moderate Klossner, ponded 5 High High High Moderate Klossner, ponded 10 2-4 25-32 High High Moderate Klossner, ponded 5 High High Moderate Minnetonka 5 High High High Moderate Minnetonka 5 High High High Moderate	Klossner, drained	80	2-4 	25-32	High 	High 	Moderate
L14A: Houghton, drained	Mineral soil, drained	15			  High	  High	Low
Houghton, drained         80         6-18         55-60         High         High         Moderate           Klossner, drained	Houghton, drained	5	   6-18	55-60	  High	  High	  Moderate
Rlossner, drained   10   2-4   25-32   High   High   Moderate	L14A:		 		 	 	 
Mineral soil, drained 10 High High Low  L15A:  Klossner, ponded 30 2-4 25-32 High High Moderate  Okoboji, ponded 30 High High Low  Glencoe, ponded 10 6-18 55-60 High High Moderate  L16A:  Muskego, ponded 30 High High Low  Houghton, ponded 30 0 35-45 High Moderate  Blue Earth, ponded 30 High High Low  Houghton, ponded 30 6-18 55-60 High High Moderate  Klossner, ponded 30 6-18 55-60 High High Moderate  Klossner, ponded 10 2-4 25-32 High High Moderate  Klossner, ponded 10 12-4 25-32 High High Moderate  Klossner, ponded 5 High High Moderate  Minnetonka 5 High High Low  L36A:	Houghton, drained	80	6-18	55-60	High	High	Moderate
L15A:  Klossner, ponded	Klossner, drained	10	2-4	25-32	  High	  High	  Moderate
Rlossner, ponded   30	Mineral soil, drained	10	 		  High 	  High 	  Low
Okoboji, ponded 30 High High Low  Glencoe, ponded 30 High High Low  Houghton, ponded 10 6-18 55-60 High High Moderate  L16A:  Muskego, ponded 30 0 35-45 High Moderate Moderate  Blue Earth, ponded 30 High High Low  Houghton, ponded 30 6-18 55-60 High High Moderate  Klossner, ponded 10 2-4 25-32 High High Moderate  Shorewood 90 High High Moderate  Good Thunder 5 High High Moderate  Minnetonka 5 High High Low  L36A:	L15A:				İ	! 	
Glencoe, ponded 30 High High Low  Houghton, ponded 10 6-18 55-60 High High Moderate  L16A:  Muskego, ponded 30 0 35-45 High Moderate Moderate  Blue Earth, ponded 30 6-18 55-60 High High Low  Houghton, ponded 30 6-18 55-60 High High Moderate  Klossner, ponded 10 2-4 25-32 High High Moderate  L26B:  Shorewood 90 High High Moderate  Good Thunder 5 High High Moderate  Minnetonka 5 High High Low  L36A:	Klossner, ponded	30	2-4	25-32	High	High	Moderate
Houghton, ponded	Okoboji, ponded	30	 		  High 	  High 	  Low 
L16A:  Muskego, ponded 30 0 35-45 High Moderate Moderate  Blue Earth, ponded 30 High High Low  Houghton, ponded 10 2-4 25-32 High High Moderate  Klossner, ponded 90 High High Moderate  Shorewood 5 High High Moderate  Minnetonka 5 High High Moderate  Minnetonka 5 High High Low  L36A:	Glencoe, ponded	30			  High	  High 	  Low
Muskego, ponded 30	Houghton, ponded	10	   6-18 	55-60	  High	  High 	  Moderate
Blue Earth, ponded 30	L16A:				İ	! 	 
Houghton, ponded 30 6-18 55-60 High High Moderate  Klossner, ponded 10 2-4 25-32 High High Moderate  L26B:	Muskego, ponded	30	0	35-45	High	Moderate	Moderate
Klossner, ponded	Blue Earth, ponded	30	 		  High	  High 	  Low
L26B:	Houghton, ponded	30	   6-18 	55-60	  High 	  High 	  Moderate 
Shorewood	Klossner, ponded	10	   2-4   	25-32	  High 	  High 	  Moderate 
Good Thunder 5       High   High   Moderate	L26B:				<u> </u>	 	
Minnetonka 5     High   High   Low	Shorewood	90			High	High 	Moderate
L36A:	Good Thunder	5	   		  High 	  High 	  Moderate 
	Minnetonka	5	 		  High 	  High 	  Low 
Hamel, overwash 50     High   High   Low	L36A:					! 	 
	Hamel, overwash	50			High	High	Low
Hamel 43 High High Low	Hamel	43	 		  High	  High	Low

Table 20.--Soil Features--Continued

Map symbol and	Pct. of	Subsid	dence	Potential	Risk of corrosion		
component name	map unit	 		for	Uncoated	I	
	İ	Initial	Total	frost action	steel	Concrete	
		In	In				
L36A: Terril	     5	   	   	    Moderate	    Moderate	  -  Low	
Glencoe	   2	 	 	  High 	  High 	  Low 	
L40B: Angus	     45	   	 	    Moderate	  -  Low	    Moderate	
Kilkenny	   40	 	 	  High	  Moderate 	  Moderate	
Lerdal	   10	 	 	  High	  High 	  High 	
Mazaska	   5 	 	 	  High 	  High 	  Moderate 	
L41C2: Lester, eroded	     45	   	   	    Moderate	    Low	    Moderate 	
Kilkenny, eroded	   40	 	 	  High	  Moderate 	  Moderate	
Terril	   10	 	 	  Moderate	  Moderate 	  Low 	
Derrynane	   5 	 	   	  High 	  High 	  Low 	
L41D2: Lester, eroded	     45	   	   	    Moderate	    Low	    Moderate	
Kilkenny, eroded	   35 	 	 	  High	  Moderate 	  Moderate	
Terril	   10	 	 	  Moderate	  Moderate 	  Low	
Derrynane	   5 	 	 	  High	  High 	  Low 	
Ridgeton	   5 	 	 	  Moderate	  Moderate 	  Low 	
L41E: Lester	     45	   	   	    Moderate 	    Low 	    Moderate 	
Kilkenny	   40 	 	 	  High	  Moderate 	  Moderate 	
Terril	   5 	 	 	  Moderate 	  Moderate 	  Low 	
Derrynane	   5 	 	   	  High 	  High 	Low	
Ridgeton	   5 	 	   	Moderate	  Moderate 	Low	
L48A: Derrynane, overwash	     50	   	   	    High	    High	  -  Low	
Derrynane	   40 	 	 	  High	  High 	  Low 	
Glencoe	   5 	 	 	  High	  High 	  Low 	
Terril	   5	 	 	  Moderate	  Moderate 	  Low	
L49A: Klossner, surface drained	       65	       2-4	       25-32	      High 	      High 	      Moderate 	
Klossner, drained	   20 	   2-4 	   25-32 	  High 	  High 	  Moderate 	
Mineral soil, drained	   15 	 	   	  High 	  High 	  Low 	

Table 20.--Soil Features--Continued

		I a.i		Risk of corrosion				
Map symbol and	Pct. of	Subsid	ience	   Potential	Risk of	corrosion		
component name	map unit			for	Uncoated			
		Initial   In	Total   In	frost action	steel 	Concrete 		
				İ	İ	İ		
L50A:								
Houghton, surface drained	40	   6-18	   55-60	  High	  High	  Moderate		
				į	İ	İ		
Muskego, surface drained	   40	l     0	35 <b>-4</b> 5	  High	  Moderate	  Moderate		
				İ	İ	İ		
Klossner, drained	10	2-4 	25-32	High 	High 	Moderate		
Mineral soil, drained	10			  High	।  High	  Low		
T E 1 CO -								
L51C2: Gladek, eroded	   80	 		  High	  Moderate	  Moderate		
j	İ			į	į	į		
Barrington	10 	 		High 	Moderate	Moderate 		
Lester, eroded	5			Moderate	Low	Moderate		
Madelia	   5	 	 	  High	  High	Low		
Madella								
L56A:								
Muskego, frequently flooded	45	   0	35-45	  High	  Moderate	  Moderate		
				į	į	į		
Klossner, frequently flooded	   45	   2-4	25-32	  High	  High	  Moderate		
				j 3	 			
Suckercreek, frequently flooded		 		  High	  High	Low		
1100ded	10							
L57A:	   80		16 44		   Tri	  Wadamata		
Medo, drained	80	8-22 	16-44	 	High 	Moderate 		
Mineral soil, drained	15			High	High	Low		
Houghton, drained	l 5	   6-18	   55-60	  High	  High	  Moderate		
				į	į	į		
L63A: Klossner	   85	   2-4	   25-32	  High	  High	  Moderate		
	İ			j 3	 			
Lura	10			High	High	Low		
Brownton	5			  High	।  High	  Low		
T.C.4.3.								
L64A: Tadkee	50	 		  High	  High	  Low		
_ 11				<u> </u>				
Tadkee, depressional	36 	 		High 	High 	Moderate 		
Better drained soil	8			Moderate	Low	Low		
Granby	l I 4	l I	 	  High	  High	  Low		
- i	İ			İ	İ	İ		
Less sandy soil	2			High 	High 	Low 		
L73A:				İ	İ	İ		
Blue Earth	80			High	High	Low		
Belleville	10	 		  High	  High	  Low		
Canidtae	10	 	 	  Tideb	   III i ab			
Canisteo	10 	- <b></b>	- <b></b>	High 	High 	Low 		

Table 20.--Soil Features--Continued

	I	Subsid	denge		l Pick of	corrosion
Map symbol and component name	Pct. of map unit	İ	  	Potential   for	Uncoated	
		  Initial	Total	frost action		Concrete
		In	In	Į.	l	ļ.
L74A:	 	l I	l i			
Estherville	   87 	   	   	  Low 	  Low 	  Low 
Hawick	   10 	   	   	  Low 	  Low 	  Low 
Biscay	3 	 	   	  High 	  Moderate 	Low
L75B: Barrington	   85	 	 	  High 	  Moderate 	  Moderate 
Gladek	   10 	   	   	  High 	  Moderate 	  Moderate 
Madelia	   5 	   	   	  High 	  High 	  Low 
L76B: Dickinson	     80	 	 	  Moderate	    Low	    Moderate
Litchfield	   13 	 	 	  Moderate 	  Low 	  Low 
Darfur	   5 	   	   	  High 	  High 	  Low 
Clarion	   2 	   	   	  Moderate 	  Low 	Low
L77A:	İ	İ	İ	i	İ	İ
Brownton	75 	 	 	High 	High 	Low
Marna	15 	 	 	High 	High 	Low 
Lura	10 	 	 	High 	  High 	Low
L78A: Canisteo	   65 	   	   	  High 	  High 	  Low 
Crippin	   10 	 	 	  High 	  High 	Low
Glencoe	   10 	 	 	  High 	  High 	Low
Canisteo, depressional	   5 	 	 	  High 	  High 	Low
Harps	   5 	 	 	  High 	  High 	Low
Webster	   5 	   	   	  High 	  High 	Low
L79B:	İ	İ	İ	İ	İ	i
Clarion	65 	 	 	Moderate	Low	Low
Clarion, eroded	25 	 	 	Moderate	Low	Low
Nicollet	8 	 	 	High 	  High 	Low
Webster	2	 	 	High 	  High 	Low
L80C2: Lester, eroded	75 	   	   	  Moderate 	  Low 	  Moderate 
Terril	   10 	   	   	  Moderate 	  Moderate 	Low
Hamel	   5 	   	   	  High 	  High 	  Low 
Reedslake	   5 	   	   	  Moderate 	  Low 	Low
Storden, eroded	   5 	   	   	  Moderate 	  Low 	Low 

Table 20.--Soil Features--Continued

Map symbol and	Pct. of	Subsid	dence	   Potential	Risk of	corrosion
component name	map unit		   Total	for frost action	Uncoated steel	Concrete
		In	In	į.	İ	İ
L80D2:	 	l I	l i	I I	 	 
Lester, eroded	75			Moderate	Low	Moderate
Ridgeton	   10		 	  Moderate 	  Moderate 	Low
Storden, eroded	   8 		 	  Moderate	  Low 	Low
Terril	   5 		 	  Moderate	  Moderate 	Low
Hamel	   2 		 	  High 	  High 	Low
L81A:	 		 	i	! 	i
Cordova	85 	 	 	High 	  High 	Low
Le Sueur	10		i	  High 	High 	Low
Rolfe	,   5 		   	  High 	'  High 	Moderate
L82A:			İ	i	İ	į
Marna	85 	 	 	High 	High 	Low
Barbert	10 	 	 	High 	  High 	Low
Guckeen	5   5	 	 	High 	High	Low
L83A:	İ	j i	İ	İ	İ	İ
Webster	65 	 	 	High 	High 	Low
Glencoe	15   15	 	 	High 	High	Low
Canisteo	10   10	 	i I	High 	High	Low
Nicollet	10	 	 	  High 	High 	Low
L84A:			İ	i	İ	į
Glencoe	80 	 	 	High 	High 	Low
Very poorly drained	İ	İ	İ	į	į	į
muck	10 	2-4 	25-32 	High 	High 	Moderate 
Canisteo	5 	 	 	High 	High 	Low
Harps	5 	 	 	High 	High 	Low
L85A: Nicollet	   85	 	 	  High	  High	Low
Clarion	İ	   	İ	į	į	Low
Webster	İ	   	   	į	İ	Low
L86A: Madelia	   90	 	 	  High	  High	Low
Okoboji	   5	 	 	  High	  High 	Low
Spicer	   3	 	 	  High	  High	Low
Kingston	   2	 	 	  High	  High	Low
	I		l	I	I	I

Table 20.--Soil Features--Continued

		Subsid	Sence		l Pick of	gorrogion
Map symbol and	Pct. of	:		   Potential	Risk of corrosion	
component name	map unit 	  Initial	   Total	for for frost action	Uncoated steel	   Concrete
		In	In			
L87A:	  -			 	 	 
Kingston	   85 			  High 	  High 	  Low 
Truman	   10 	 		  High 	  Low 	  Low 
Madelia	   5 	 		  High 	'  High 	  Low 
L88A: Lura	     85	 		    High	    High	  Low
Brownton	   10	 		  High 	  High 	  Low 
Organic soil	   5 	   2-4 	25-32	  High 	  High 	  Moderate 
L89A: Guckeen	     82	   		    High 	    High 	    Low
Marna	   10			  High 	  High 	  Low 
Clarion clay loam	   8 	 		  Moderate 	  Low 	  Low 
L90A: Le Sueur	     75	   		    High 	    High 	    Low
Cordova	   13			  High 	  High 	  Low 
Reedslake	   12 	 		  Moderate 	  Low 	  Low 
L91A: Mazaska	     85	   		    High 	    High 	    Moderate 
Lerdal	   10			  High 	  High 	  High 
Rolfe	   5 	 		  High 	  High 	  Moderate 
L92A: Darfur	     78 	   		    High 	    High 	    Low 
Fieldon	1   10			  High 	  High 	Low
Litchfield	   5 	 		  Moderate 	  Low 	  Low 
Webster	   5 			  High 	  High 	  Low 
Dassel	   2 	 		  High 	'  High 	Low
L93A: Muskego	   82	0	35-45	    High 	  Moderate	    Moderate 
Blue Earth	   10			  High 	  High 	  Low 
Mineral soil, drained	   5 			  High 	  High 	  Low 
Belleville	   3 	 		  High 	  High 	  Low 
L94A: Lowlein	     75	   		    Moderate 	    Moderate 	    Low 
Linder	   15 	   		  High 	  Moderate 	  Low 
Dickinson	   8 	   		  Moderate 	  Low 	  Moderate 
Darfur	   2 	   		  High 	  High 	  Low 

Table 20.--Soil Features--Continued

	 	Subsid	lence		Risk of	corrosion
Map symbol and	Pct. of			Potential		
component name	map unit 		   Total	for for frost action	Uncoated steel	   Concrete
		In	In			
L95E:		 		 	 	 
Hawick	80			Low	Low	Low
Estherville	10	     	 	  Low 	  Low 	  Low 
Tomall	10	 		  Moderate 	  High 	  Low 
L96B:		i i		İ	j	İ
Estherville	55	 		Low	Low	Low
Hawick	35	 		Low	Low	  Low 
Tomall	8	i i		Moderate	High	Low
Biscay	   2 	 	 	  High 	  Moderate 	  Low 
L97C:	į	j i	İ	İ	İ	İ
Hawick	60 	 		Low	Low	Low 
Estherville	30	i i		Low	Low	Low
Tomall	10	     		  Moderate 	  High 	  Low 
L98A:	į	j i	İ	İ	İ	İ
Crippin	50 	 		High 	High 	Low 
Nicollet	40	i i		  High 	  High 	Low
Canisteo	5			  High 	  High 	Low
Clarion	5			Moderate	Low	Low
L99B:						
Clarion	62 	 		Moderate 	Low 	Low 
Swanlake	25	 	 	Moderate	Low 	Low
Nicollet	10	 		  High	  High	Low
Webster	3	     		  High 	  High 	  Low 
L100B:	45	į		     <b> </b>	 	 
Clarion		 		Moderate	Low	Low
Estherville	35	 		Low	Low	Low 
Lowlein	5	 		Moderate	Moderate	Low
Nicollet	5			  High	  High 	Low
Swanlake	5			  Moderate	  Low 	  Low 
Webster	5	 		  High	  High 	  Low 
L101C2:		 		! 	! 	! 
Omsrud, eroded	40	 		Moderate	Low 	Low 
Hawick	30	     		Low	Low	Low
Storden, eroded	20			Moderate	Low	Low
Delft	5	 		  High 	  High 	  Low 
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Table 20.--Soil Features--Continued

Name symbol and component name   Pott of map unit   Initial   Total   for   Uncoated   Initial   Total   frost action   Steel   In   In   In   In   In   In   In   I	   Concrete
In	
Terril	
Omsrud, eroded	Low
Hawick	    Low
Storden, eroded	Low
Ridgeton	Low
Delft	į
Terril	Low
L102C2: Omsrud, eroded	Low
Omsrud, eroded	Low
Omsrud	Low
Terril	Low
Delft	Low
L102D2:  Omsrud, eroded	Low
Omsrud, eroded         45          Moderate         Low           Storden, eroded	Low
Omsrud	Low
Ridgeton	Low
Delft 6 High High  Terril 6 Moderate Moderate  L103A: Fieldon 50 High High  Canisteo 35 High High	Low
Terril 6	Low
L103A:	Low
Fieldon 50     High   High   Canisteo 35     High   H	Low
Canisteo 35     High   High	
	Low
Darfur  10     High   High	Low
	Low
Glencoe 5     High   High	Low
L105C2:	Moderate
	Low
	Low
	Low
	Low

Table 20.--Soil Features--Continued

Map symbol and	Pct. of	Subsid	lence	   Potential	Risk of	corrosion
component name	map unit		Total	for frost action	Uncoated steel	Concrete
		In	In	 	  -	 
L105D2:		 		i	! 	İ
Lester, eroded	45			Moderate	Low	Moderate
Hawick	35	     		  Low 	  Low 	  Low 
Ridgeton	8			Moderate	Moderate	Low
Hamel	5	 		  High 	  High 	  Low 
Storden, eroded	5	 		  Moderate 	  Low 	  Low 
Terril	2	 		  Moderate 	  Moderate 	  Low 
L106C2:	62	   		    Moderate	    Low	    Moderate
İ				İ		
Storden, eroded	20	 		Moderate	Low 	Low 
Terril	10	 		Moderate	Moderate	Low
Hamel	5			  High	'  High 	Low
Reedslake	3	 		  Moderate 	  Low 	Low
L106D2:				İ	 	
Lester, eroded	62	 		Moderate	Low	Moderate
Storden, eroded	20			Moderate	  Low 	Low
Ridgeton	10			  Moderate	  Moderate 	Low
Terril	5			  Moderate	  Moderate 	  Low 
Hamel	3	 		  High 	  High 	Low
L107A:		i i		İ	İ	İ
Canisteo	50	 		High 	High 	Low
Glencoe	35	i		  High 	High 	Low
Harps	10			  High	  High 	Low
Canisteo, depressional	3			  High	  High 	  Low
Crippin	2	 		  High	  High 	  Low
L108A:		 		i	! 	İ
Cordova	65	 		High	High	Low
Rolfe	30			  High 	  High 	  Moderate 
Le Sueur	5	 		  High 	  High 	  Low 
L109A:		 			! 	! 
Marna	65			High	High 	Low
Barbert	30	     		  High 	  High 	  Low 
Guckeen	5	 		  High 	  High 	  Low 
	l	I I		I	I	I

Table 20.--Soil Features--Continued

	 I	Subsid		1	l Bigh of	
Map symbol and	Pct. of		rence	   Potential	Risk of corrosion	
component name	map unit			for	Uncoated	l
				frost action	steel	Concrete
		In 	In 	 	 	l I
L110E:				İ	İ	İ
Lester	50			Moderate	Low	Moderate
Ridgeton	30 	   	   	  Moderate 	  Moderate 	  Low 
Cokato	10	   	   	  Moderate 	  Low 	Low
Belview	6	   	 	  Moderate 	Low	Low
Hamel	2	   	 	  High 	High	Low
Terril	2	 	 	Moderate	Moderate	Low
L110F: Lester	55	 	 	  Moderate	  Low	  Moderate
Ridgeton	30	 	 	  Moderate 	  Moderate 	  Low 
Cokato	8	   	   	  Moderate 	  Low 	  Low 
Belview	4	   	   	  Moderate 	  Low 	  Low 
Terril	2	 	 	  Moderate 	  Moderate 	Low
Hamel	1	 	 	  High 	High 	Low
L111A: Nicollet	85	   	 	    High 	    High 	  Low
Clarion	10	 		  Moderate 	  Low 	  Low 
Webster	5	   	   	  High 	  High 	  Low 
L112A:	     85	   	   	    High	    High	    Low
Glencoe	10	 	i I	    High	    High	Low
Nicollet	5	i I	 	    High	    High	Low
		l		!	ļ	!
L113B: Reedslake	75	 	 	  Moderate	  Low 	  Low 
Le Sueur	10	   	   	  High 	  High 	  Low 
Reedslake, eroded	10	 	 	  Moderate 	  Low 	  Low 
Cordova	5	   	   	  High 	  High 	  Low 
L114A: Hanlon, rarely flooded	85	   	   	    Moderate 	    Moderate 	    Low
Coland, occasionally flooded	10	   	   	    High 	    High 	  Low 
Minneopa, rarely flooded	5	   	   	    Moderate 	    Low 	    Low 
L115A: Brownton	55	   	   	    High 	    High 	    Low
Lura	35	   	   	  High 	  High 	  Low 

Table 20.--Soil Features--Continued

Map symbol and	   Pct. of	Subsic	lence	   Potential	Risk of	corrosion
component name	map unit			for	Uncoated	
	l	Initial   In	In In	frost action	steel	Concrete
	 		111	İ	! 	! 
L115A: Marna	     10	 		  Нigh	  High	Low
						i
L116A: Le Sueur	   45	 	 	  High	  High	Low
Lerdal	   40	 	 	  High 	  High 	  High 
Mazaska	   10			  High	  High 	  Moderate 
Kilkenny	   5 	 		  High 	  Moderate 	  Moderate 
L117C2:	 	 		İ	! 	! 
Omsrud, eroded	65   65			Moderate	Low	Low
Omsrud	15   15	 		  Moderate 	Low	Low
Terril	10   10	 		  Moderate 	  Moderate 	Low
Delft	,   5 			  High 	'  High 	Low
Storden, eroded	   5 			Moderate	  Low 	  Low 
L118A:	!			i	İ	İ
Rushriver, frequently flooded	     85	 		  High	    Moderate	Low
Houghton, frequently	   				 	
flooded	5 	2-4 	25-32	High	High 	Moderate 
Klossner, frequently flooded	5   5	2-4	25-32	  High	    High	  Moderate
Medo, frequently	 				 	 
flooded	5 	2-4 	25-32	High 	High 	Moderate 
L119B: Angus	   80	 		    Moderate	Low	    Moderate
	İ	   		į	į	į
Angus, eroded	10	 		Moderate 	Low 	Moderate 
Cordova	5 	 		High 	High 	Low
Le Sueur	5   5	 		High 	High	Low
L120A:		İ		į		į į
Good Thunder	İ	 		High 	High 	Moderate 
Ocheyedan	10 	 	 	Moderate	Low 	Low 
Minnetonka	10 	 	 	High 	High 	Low 
L121B: Clarion	   80	 	 	  Moderate	  Low	  Low
Guckeen	15	i 		    High	  High	Low
Marna	ĺ	 		į		    Low
	į	i		į	_	į
L122B: Reedslake	   55	 	 	  Moderate	Low	  Low
Estherville	   25 	     		  Low 	  Low 	  Low 
	ı			I	I	I

Table 20.--Soil Features--Continued

	 	Subsid	lence		Risk of corrosion	
Map symbol and component name	Pct. of map unit	j	 	Potential   for	   Uncoated	<u> </u>
	<u> </u>	Initial   In	Total In	frost action	steel	Concrete
				į	<u> </u>	į
L122B: Le Sueur	   10	 	 	  High 	  High 	  Low 
Cordova	   5 	     	 	  High 	  High 	  Low 
Lowlein	5   5	i i		  Moderate 	  Moderate 	Low
L123A: Belleville	   85 	 		  High 	  High 	Low
Granby	   15 	 		  Moderate 	  High 	  Low 
L124A: Glencoe mucky clay loam	   85 	 	 	    High 	    High 	  Low 
Canisteo	10	i		High	  High	Low
Glencoe clay loam	   5 	     		  High 	  High 	  Low 
L125A: Hanlon, rarely flooded	     60	     		  Moderate 	    Moderate 	  Low 
Coland, occasionally flooded	   25 	     		  High 	    High 	  Low 
Minneopa, rarely flooded	     15	 		  Moderate	    Low	Low
L126A: Coland, occasionally flooded	     80	   		      High 	      High	      Low
Minneopa, occasionally flooded		   		    Moderate 	    Low 	    Low 
Havelock, occasionally flooded		   		    High 	    High 	    Low 
Spillville, occasionally flooded	     5	   	 	    Moderate 	    High 	    Moderate 
L127A: Coland, frequently flooded	     80	   		      High	      High	      Low
Minneopa, occasionally flooded	•	   		    Moderate	    Low	    Low
Havelock, frequently flooded	     5	   		    High 	    High 	    Low 
Spillville, occasionally flooded	     5	   		    Moderate 	    High 	    Moderate 
L128A: Mazaska	     60	   		    High 	    High 	    Moderate 
Rolfe	   30			  High	  High	  Moderate
Lerdal	   10 	     		  High 	  High 	  High 

Table 20.--Soil Features--Continued

I		Subsid	lence		Risk of	corrosion
Map symbol and	Pct. of			Potential		
component name	map unit			for	Uncoated	
		Initial	Total	frost action	steel	Concrete
	[	In	In	Į į		
L129B:				 	 	 
Terril	90	<u> </u>		Moderate	Moderate	Low
Delft	5			  High 	  High 	Low
Hame1	5			  High 	  High 	Low
L130A:					! 	
Okoboji mucky silty	i	į		į i	İ	İ
clay loam	75	j		High	High	Low
Okoboji silty clay		i		i		
loam	15			High	High 	Low
Brownton	5			  High	  High 	Low
Spicer	5			  High	  High 	Low
и-w.				 	 	
Water, miscellaneous	ļ	į		İ	  -	į
J3B.					 	
Udorthents (cut and		İ		İ	ĺ	ĺ
fill land)	į	į				İ
√.				 	 	
Water	į	į		İ	ĺ	İ

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## **Glossary**

- **Ablation till.** Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.
- **Aeration, soil.** The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.
- **Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.
- **Alluvium.** Material, such as sand, silt, or clay, deposited on land by streams.
- Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.
- Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.
- **Aquic conditions.** Current soil wetness characterized by saturation, reduction, and redoximorphic features.
- **Argillic horizon.** A subsoil horizon characterized by an accumulation of illuvial clay.
- **Aspect.** The direction in which a slope faces.
- Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

0 to 3
3 to 6
6 to 9
9 to 12
more than 12

**Backslope.** The position that forms the steepest and

- generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below
- **Basal till.** Compact glacial till deposited beneath the
- **Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.
- Base slope. A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).
- **Beach deposits.** Material, such as sand and gravel, that is generally laid down parallel to an active or relict shoreline of a postglacial or glacial lake.
- **Bedding planes.** Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.
- **Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
- **Bedrock-controlled topography.** A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.
- **Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
- **Bisequum.** Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.
- **Blowout.** A shallow depression from which all or most of the soil material has been removed by the wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.
- Bog. Waterlogged, spongy ground, consisting

primarily of mosses, containing acidic, decaying vegetation (such as sphagnum, sedges, and heaths) that develops into peat.

- **Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.
- Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.
- **Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.
- Canopy. The leafy crown of trees or shrubs. (See Crown.)
- Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.
- **Catena.** A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.
- **Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
- Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.
- **Catsteps.** Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.
- Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.
- **Chemical treatment.** Control of unwanted vegetation through the use of chemicals.
- **Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.
- **Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay,

- less than 45 percent sand, and less than 40 percent silt.
- Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.
- Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.
- Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.
- Coarse textured soil. Sand or loamy sand.

  Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.
- Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.
- **COLE (coefficient of linear extensibility).** See Linear extensibility.
- **Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.
- **Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.
- Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.
- Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.
- Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and

- practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.
- **Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.
- Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."
- **Contour stripcropping.** Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.
- **Control section.** The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.
- **Coprogenous earth (sedimentary peat).** Fecal material deposited in water by aquatic organisms.
- **Corrosion.** Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.
- **Cover crop.** A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.
- **Crop residue management.** Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.
- **Cropping system.** Growing crops according to a planned system of rotation and management practices.
- **Cross-slope farming.** Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.
- **Crown.** The upper part of a tree or shrub, including the living branches and their foliage.
- **Cutbanks cave** (in tables). The walls of excavations tend to cave in or slough.

- **Decreasers.** The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.
- **Deferred grazing.** Postponing grazing or resting grazing land for a prescribed period.
- **Delta.** A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake
- **Dense layer** (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.
- **Depression.** Any relatively sunken part of the earth's surface; especially a low-lying area surrounded by higher ground. A closed depression has no natural outlet for surface drainage.
- **Depth, soil.** Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.
- Disintegration moraine. A drift topography characterized by chaotic mounds and pits, generally randomly oriented, developed in supraglacial drift by collapse and flow as the underlying stagnant ice melted. Slopes may be steep and unstable. Abrupt changes between materials of differing lithology are common.
- **Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.
- Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."
- **Drainage, surface.** Runoff, or surface flow of water, from an area.
- **Drainageway.** A relatively small, linear depression that, at some time, moves concentrated water and either does not have a defined channel or has only a small defined channel.
- **Drumlin.** A low, smooth, elongated oval hill, mound, or ridge of compact glacial till. The longer axis is

parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.

- **Duff.** A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.
- **Eluviation.** The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.
- **End moraine.** A ridgelike accumulation that is being or was produced at the outer margin of an actively flowing glacier at any given time.
- **Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.
- **Eolian soil material.** Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.
- **Ephemeral stream.** A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.
- **Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.
- **Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep. *Erosion* (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.
  - Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.
- **Erosion pavement.** A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.
- **Escarpment.** A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

- **Esker.** A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.
- **Fan terrace.** A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.
- **Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.
- Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.
- Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity.*
- Fine textured soil. Sandy clay, silty clay, or clay.

  Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.
- **First bottom.** The normal flood plain of a stream, subject to frequent or occasional flooding.
- Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.
- **Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.
- **Flood plain.** A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.
- **Footslope.** The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).
- **Forb.** Any herbaceous plant not a grass or a sedge.

- **Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.
- **Forest type.** A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.
- Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.
- **Frost action** (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.
- **Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.
- Geomorphology. The science that treats the general configuration of the earth's surface; specifically, the study of the classification, description, nature, origin, and development of landforms and their relationships to underlying structures, and the history of geologic changes as recorded by these surface features. The term is especially applied to the genetic interpretation of landforms.
- **Glacial drift.** Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.
- **Glacial outwash.** Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.
- **Glacial till.** Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.
- **Glaciofluvial deposits.** Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.
- **Glaciolacustrine deposits.** Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.
- **Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.
- **Graded stripcropping.** Growing crops in strips that grade toward a protected waterway.

- **Grassed waterway.** A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.
- **Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.
- Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.
- **Green manure crop** (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.
- **Ground water.** Water filling all the unblocked pores of the material below the water table.
- Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.
- **Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.
- Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.
- **Head slope.** A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.
- Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.
- Herbaceous peat. An accumulation of organic material, decomposed to some degree, that is predominantly the remains of sedges, reeds, cattails, and other herbaceous plants.
- **High-chroma zones.** Zones having chroma of 3 or more. Typical color in areas of iron concentrations.
- High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

- **Hill.** A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.
- Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:
  - O horizon.—An organic layer of fresh and decaying plant residue.
  - A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.
  - *E horizon.*—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.
  - B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.
  - C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.
  - *Cr horizon.*—Soft, consolidated bedrock beneath the soil.
  - R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.
- **Humus.** The well decomposed, more or less stable part of the organic matter in mineral soils.

- Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff
- Ice-walled lake plain. A relict surface marking the floor of an extinct lake basin that was formed on solid ground and surrounded by stagnant ice in a stable or unstable superglacial environment on stagnation moraines. As the ice melted, the lake plain became perched above the adjacent landscape. The lake plain is well sorted, generally fine textured, stratified deposits.
- **Igneous rock.** Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.
- **Illuviation.** The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.
- **Impervious soil.** A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.
- **Increasers.** Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.
- **Infiltration.** The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.
- **Infiltration capacity.** The maximum rate at which water can infiltrate into a soil under a given set of conditions.
- Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.
- Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time.

  Therefore, intake rate for design purposes is not a

constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

ess than 0.2very low	Le
.2 to 0.4low	0.2
.4 to 0.75 moderately low	0.4
.75 to 1.25 moderate	0.
.25 to 1.75 moderately high	1.
.75 to 2.5 high	1.
lore than 2.5 very high	M

- **Interfluve.** An elevated area between two drainageways that sheds water to those drainageways.
- Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.
- **Invaders.** On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.
- Iron concentrations. High-chroma zones having a high content of iron and manganese oxide because of chemical oxidation and accumulation, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic concentration.
- **Iron depletions.** Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.
- Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are: Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

  Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of closegrowing crops or in orchards so that it flows in only

*Drip (or trickle).*—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

one direction.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system. Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

- **Kame.** An irregular, short ridge or hill of stratified glacial drift.
- Kame moraine. An end moraine that contains numerous kames. A group of kames along the front of a stagnant glacier, commonly comprising the slumped remnants of a formerly continuous outwash plain built up over the foot of rapidly wasting or stagnant ice.
- **Karst** (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.
- **Knoll.** A small, low, rounded hill rising above adjacent landforms.
- K<sub>sat</sub>- Saturated hydraulic conductivity. (See Permeability.)
  Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.
- **Lake bed.** The bottom of a lake: a lake basin.
- Lake plain. A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.
- **Lake terrace.** A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.
- **Lakeshore.** A narrow strip of land in contact with or bordering a lake; especially the beach of a lake.
- Lamella. A thin (commonly less than 1 cm thick), discontinuous or continuous, generally horizontal layer of fine material (especially clay and iron oxides) that has been pedogenically concentrated (illuviated within a coarser textured eluviated layer several centimeters to several decimeters thick).
- **Landslide.** The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.
- Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

**Leaching.** The removal of soluble material from soil or other material by percolating water.

- Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.
- **Liquid limit.** The moisture content at which the soil passes from a plastic to a liquid state.
- **Loam.** Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.
- **Loess.** Fine grained material, dominantly of silt-sized particles, deposited by wind.
- **Low strength.** The soil is not strong enough to support loads.
- **Low-chroma zones.** Zones having chroma of 2 or less. Typical color in areas of iron depletions.
- Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.
- **Marl.** An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.
- Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.
- **Mechanical treatment.** Use of mechanical equipment for seeding, brush management, and other management practices.
- **Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.
- **Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.
- Mineral soil. Soil that is mainly mineral material and

- low in organic material. Its bulk density is more than that of organic soil.
- **Minimum tillage.** Only the tillage essential to crop production and prevention of soil damage.
- **Miscellaneous area.** An area that has little or no natural soil and supports little or no vegetation.
- **Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.
- **Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.
- **Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.
- **Moraine.** An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.
- Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.
- Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—few, common, and many; size—fine, medium, and coarse; and contrast—faint, distinct, and prominent. The size measurements are of the diameter along the greatest dimension. Fine indicates less than 5 millimeters (about 0.2 inch); medium, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and coarse, more than 15 millimeters (about 0.6 inch).
- **Muck.** Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)
- **Mucky peat.** Unconsolidated soil material consisting primarily of organic matter that is in an intermediate stage of decomposition such that a significant part of the material can be recognized and a significant part of the material cannot be recognized.
- **Mudstone.** Sedimentary rock formed by induration of silt and clay in approximately equal amounts.
- **Munsell notation.** A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.
- **Neutral soil.** A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)
- **Nodules.** Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds

- making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.
- **Nose slope.** A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.
- Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water
- **Organic matter.** Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

- **Outwash plain.** A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is low in relief.
- Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.
- **Parent material.** The unconsolidated organic and mineral material in which soil forms.
- **Peat.** Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)
- **Ped.** An individual natural soil aggregate, such as a granule, a prism, or a block.
- **Pedisediment.** A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.
- **Pedon.** The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.
- **Percolation.** The movement of water through the soil. **Permeability.** The quality of the soil that enables water or air to move downward through the profile. The

rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

- **pH value.** A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)
- **Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.
- **Piping** (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.
- Pitted outwash plain. An outwash plain marked by many irregular depressions, such as kettles, shallow pits, and potholes, which formed by melting of incorporated ice masses; common in Wisconsin and Minnesota.
- **Pitting** (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.
- **Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.
- **Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.
- **Plateau.** An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.
- **Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.
- **Poorly graded.** Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

**Potential native plant community.** See Climax plant community.

## Potential rooting depth (effective rooting depth).

Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

- Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.
- **Productivity, soil.** The capability of a soil for producing a specified plant or sequence of plants under specific management.
- **Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.
- Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.
- Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

## Redoximorphic concentrations. Nodules,

concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

- Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.
- Redoximorphic features. Redoximorphic

- concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha, alphadipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.
- Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.
- **Regolith.** The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.
- **Relief.** The elevations or inequalities of a land surface, considered collectively.
- Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.
- **Rill.** A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.
- **Rise.** A slight increase in elevation of the land surface, typically with a broad summit and gently sloping
- **Road cut.** A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.
- **Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.
- **Root zone.** The part of the soil that can be penetrated by plant roots.
- Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called groundwater runoff or seepage flow from ground water.
- **Saline soil.** A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.
- **Sand.** As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.
- **Sandstone.** Sedimentary rock containing dominantly sand-sized particles.
- **Sapric soil material (muck).** The most highly decomposed of all organic soil material. Muck has

- the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.
- **Saprolite.** Unconsolidated residual material underlying the soil and grading to hard bedrock below.
- **Saturated hydraulic conductivity (K**<sub>sat</sub>). See Permeability.
- **Saturation.** Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.
- **Scarification.** The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.
- **Second bottom.** The first terrace above the normal flood plain (or first bottom) of a river.
- Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.
- **Seepage** (in tables). The movement of water through the soil adversely affects the specified use.
- **Sequum.** A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)
- **Series, soil.** A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.
- **Shale.** Sedimentary rock formed by the hardening of a clay deposit.
- **Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.
- **Shoulder.** The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.
- Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.
- **Side slope.** A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

- **Silica.** A combination of silicon and oxygen. The mineral form is called quartz.
- Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.
- **Siltstone.** Sedimentary rock made up of dominantly silt-sized particles.
- Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.
- **Sinkhole.** A depression in the landscape where limestone has been dissolved.
- Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.
- **Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.
- Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.
- **Slow refill** (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.
- Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.
- **Soft bedrock.** Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.
- **Soil.** A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.
- **Soil separates.** Mineral particles less than 2 millimeters in equivalent diameter and ranging

between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

- **Solum.** The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.
- Stagnation moraine. A body of drift released by the melting of a glacier that ceased flowing.

  Commonly, but not always, occurs near ice margins; composed of till, ice-contact stratified drift, and small areas of glacial lake sediment.

  Typical landforms are knob-and-kettle topography, locally including ice-walled lake plains.
- Stone line. A concentration of rock fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.
- **Stones.** Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.
- **Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.
- **Stripcropping.** Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.
- Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—platy (laminated), prismatic (vertical axis of aggregates longer than horizontal), columnar (prisms with rounded tops), blocky (angular or subangular), and granular. Structureless soils are either single grained (each grain by itself, as in dune sand) or massive (the particles adhering without any regular cleavage, as in many hardpans).
- **Stubble mulch.** Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after

- harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.
- Subsidence. The potential decrease in surface elevation as a result of the drainage of wet soils that have organic layers or semifluid mineral layers. Subsidence, as a result of drainage, is attributed to (1) shrinkage from drying, (2) consolidation because of the loss of ground-water buoyancy, (3) compaction from tillage or manipulation, (4) wind erosion, (5) burning, and (6) biochemical oxidation.
- **Subsoil.** Technically, the B horizon; roughly, the part of the solum below plow depth.
- **Subsoiling.** Tilling a soil below normal plow depth, ordinarily to shatter or loosen a layer that restricts roots.
- **Substratum.** The part of the soil below the solum. **Subsurface layer.** Any surface soil horizon (A, E, AB, or EB) below the surface layer.
- **Summit.** The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.
- Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters).

  Frequently designated as the "plow layer," or the "Ap horizon."
- **Surface soil.** The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.
- **Swale.** A slight depression in the midst of generally level land. A shallow depression in an undulating ground moraine caused by uneven glacial deposition.
- **Terminal moraine.** A belt of thick glacial drift that generally marks the termination of important glacial advances.
- Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.
- **Terrace** (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.
- **Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay

- loam, silty clay loam, sandy clay, silty clay, and clay. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."
- **Thin layer** (in tables). Otherwise suitable soil material that is too thin for the specified use.
- **Till plain.** An extensive area of nearly level to undulating soils underlain by glacial till.
- **Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.
- **Toeslope.** The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.
- **Topsoil.** The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.
- **Trace elements.** Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.
- **Upland.** Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.
- Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

- Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.
- Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.
- **Weathering.** All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.
- Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.
- Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.
- **Windthrow.** The uprooting and tipping over of trees by the wind.
- **Woody peat.** An accumulation of organic material that is predominantly composed of trees, shrubs, and other woody plants.